Consultation

RIIO-3 Draft Determinations – Electricity Transmission

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The next set of price controls for the Electricity Transmission (ET), Gas Distribution (GD) and Gas Transmission (GT) sectors will cover the five-year period from 1 April 2026 to 31 March 2031 (RIIO-3). In December 2024 the network companies in these sectors submitted their RIIO-3 Business Plans for this period to us. We have now assessed these plans.

This document, and others published alongside it, set out our Draft Determinations for the RIIO-3 price controls. These are for consultation and we would like views from people with an interest in RIIO-3 by 26 August 2025. We particularly welcome responses from consumer groups and energy industry network users. We also welcome responses from other stakeholders and the public.

Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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1. Introduction

Purpose of this document

1.1 This document sets out our Draft Determination consultation positions for the Electricity Transmission (ET) price control for the three Transmission Owners (TOs) in Great Britain (GB) covering the five-year period from 1 April 2026 to 31 March 2031 (RIIO-ET3). All figures in this document are in 2023/24 prices except where otherwise stated.

What is electricity transmission?

1.2 The ET network transmits high-voltage electricity from where it is produced to where it is needed throughout GB. Transmission assets consist of high-voltage electricity wires which extend across GB and nearby offshore waters, transporting electricity between power stations, interconnectors with external systems, large users, and interfaces with Electricity Distribution (ED) networks at local substations. Three TOs own, maintain, and develop a high-voltage system within their own distinct transmission areas across GB.

1.3 These are National Grid Electricity Transmission plc (NGET) for England and Wales, Scottish Power Transmission limited (SPT) for southern Scotland and Scottish Hydro Electric Transmission plc (SHET) for northern Scotland and the Scottish islands.

1.4 GB's ET system is operated by the National Energy System Operator (NESO). The NESO is responsible for ensuring the stable and secure operation of the transmission system, from the day-to-day operation, through to managing the commercial terms of connecting to and using the network and longer-term network planning.

What are we consulting on?

1.5 In Chapter 2 we provide a summary of the key aspects of the RIIO-ET3 price control.

1.6 We explore the core outputs and incentives that we propose should underpin RIIO-ET3 in Chapter 3. This includes incentives to drive TO behaviour which will deliver benefits to consumers, such as delivering infrastructure on time, limiting the duration of unplanned outages and limiting the leakage of harmful gases. Chapter 3 also describes the outputs that will be set in RIIO-ET3 to hold TOs accountable for critical network upgrades.

1.7 Chapter 4 sets out how we propose to manage uncertainty during RIIO-ET3. It describes the suite of uncertainty mechanisms (UMs) which will ensure that the

investment that TOs identify as being required in-period can be assessed and funded by us in a timely manner without causing unnecessary delays to the network reinforcement that will be key to meeting decarbonisation targets.

1.8 In Chapter 5 we outline how we have approached our assessment of TO costs and engineering justifications for the RIIO-ET3 period to ensure that TOs are sufficiently funded to be able to deliver their plans, and that ongoing TO activities and the transition to net zero comes at a low cost for existing and future consumers. Chapter 5 also covers our approach to setting the Totex Incentive Mechanism (TIM) and assessing Stage B of the Business Plan Incentive (BPI) for RIIO-ET3. Our approaches to stages A and C of the BPI were common across all sectors so are described in our Overview Document.

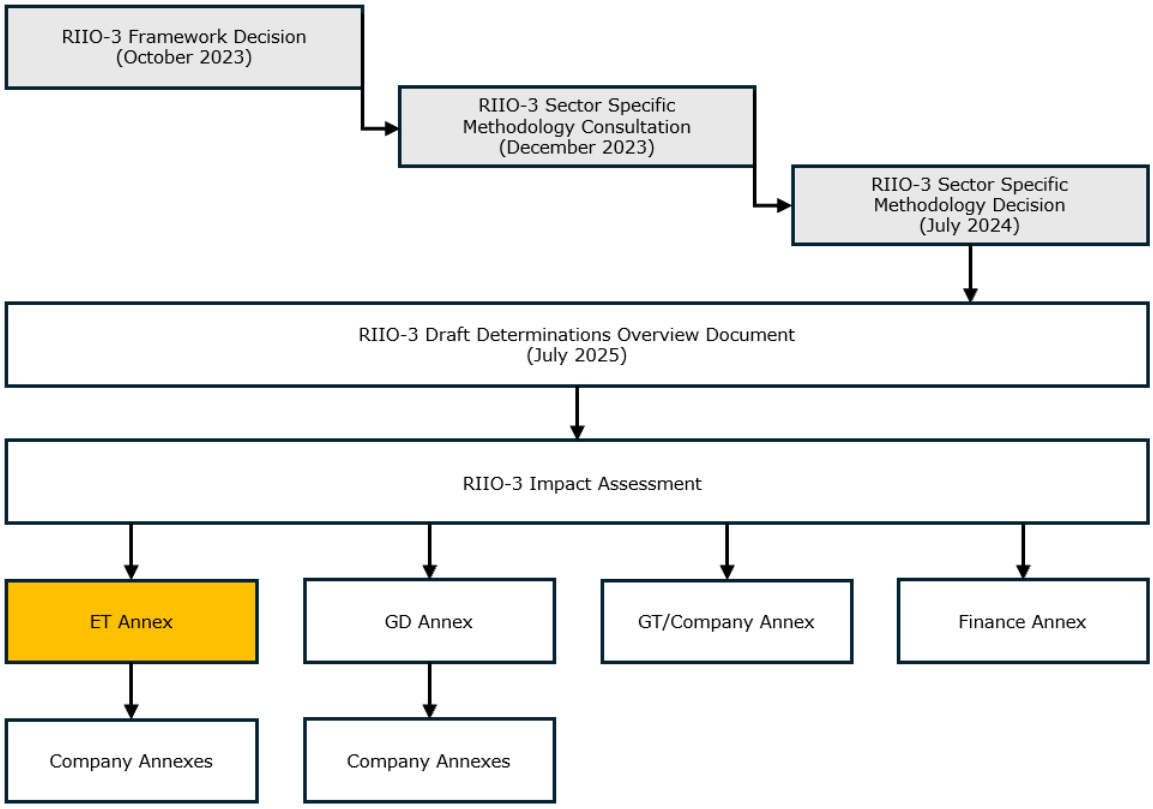
Navigating the RIIO-3 Draft Determinations documents

1.9 The RIIO-3 Draft Determinations are comprised of an Overview Document, a Finance Annex and sector annexes for ET, GD and GT. This document is the sector annex for ET. The sector annexes are underpinned by a RIIO-3 Impact Assessment, company annexes[1] and, where relevant, technical annexes. Figure 1 below maps all documents relevant to our suite of RIIO-3 Draft Determinations, including the framework and methodology documents that have preceded it.

1.10 Our Draft Determinations have considered all previous feedback from network companies and other stakeholders, including the reports from the Independent Stakeholder Groups (ISGs) that were established to challenge each of the network companies on their stakeholder engagement and business plans, and the feedback received in response to our RIIO-3 Call for Evidence.[2] Further details on our approach to embedding the consumer voice is set out in the RIIO-3 Overview Document.

[1] Throughout this document, 'company annexes' refers to the three TO specific annexes to this document (their abbreviated names are NGET Annex, SHET Annex and SPT Annex).
[2] https://www.ofgem.gov.uk/call-for-input/call-evidence-electricity-transmission-gas-transmission-and-gas-distribution-business-plans-riio-3

Figure 1: RIIO-3 Draft Determinations map



2. RIIO-ET3 at a glance

We want TOs building a resilient network to support net zero…

2.1 Government plans for the decarbonisation of the energy system will require levels of network investment not seen since the ET network was first built out. RIIO-ET3 will need to be set up in a manner which provides TOs with confidence and incentives to progress network build at pace. RIIO-ET3 will deliver the largest increase in capital spending in the history of the privatised ET sector, potentially reaching £80bn over the period.

2.2 Net zero and Clean Power 2030 (CP2030) will bring the total customer bill down by lessening our reliance on wholesale gas prices and reducing constraint costs,[3] while also enabling a more resilient and cleaner electricity system.[4] That's why a key focus for RIIO-ET3 is to support the TOs in making the investment required to meet these targets, and the long-term energy security that they will provide. Where projects are approved in CP2030 we will not re-assess the need for them. All CP2030 projects still under development are progressing to their next stage. Through a combination of RIIO-ET2 funding that will roll forward and our proposals in these Draft Determinations, including UMs, we will ensure the TOs have access to funding to deliver these projects.

2.3 Our proposed suite of load-related baseline funding and UMs should ensure that the TOs are able to:

- deliver the network investments that they have identified and sought funding for now;
- develop and contract for additional projects using the £238m of Pre-Construction Funding (PCF) and our ~£4bn Advanced Procurement Mechanism (APM); and
- secure funding in-period for new investments as and when the need for, or design of, projects becomes more certain through a combination of streamlined re-openers and automatic mechanisms.

2.4 We will need to assess projects in-period because even though we know the total volume of new generation needed, TOs do not yet know the exact locations or technical requirements of all of it. Nonetheless, we are clear that TOs will need to act faster to connect customers and reduce the length of the connections queue. We have designed RIIO-ET3 with this as a priority.

[3] Constraint costs are money paid to generators (eg wind farms) when the ET network is unable to transmit their power output.
[4] Clean Power 2030 Action Plan - GOV.UK

2.5 This network investment will maintain world class levels of network reliability, further reducing the frequency and duration of unplanned outages and power cuts, and ensuring long-term safety and resilience. Across the RIIO-3 sectors we've increased our focus on cyber and climate resilience, whilst our Network Asset Risk Metric (NARM) tool will ensure the underlying health of the network assets across the electricity and gas networks remains world leading.

Prioritising consumer needs and environmental sustainability…

2.6 For RIIO-ET3 we have proposed a high-powered package of incentives that focuses TO behaviour on areas which could provide the most material consumer value, such as reduced constraint costs and delivery of projects which support the connection of renewable generation. These offer investors significant additional returns for TOs that are bold and innovative so that they deliver their plan on time and help to bring down electricity bills.

2.7 We also want to maintain the progress seen in previous RIIO price controls in relation to TOs providing services which consumers value and delivering a network which is environmentally sustainable. As such RIIO-ET3 will include:

- around £500m of funding to support interventions that will reduce the environmental impact of TOs and their work, including limiting the emissions of harmful greenhouse gases (GHG) and increasing biodiversity;
- a mechanism to deliver the government's planned Community Benefit Funding in areas affected by new ET infrastructure which could be worth around £225m over the period; and
- a £158m Network Innovation Allowance (NIA) across ET and access to portions of a £500m Strategic Innovation Fund (SIF) to support network innovation that contributes to net zero.

With the lowest possible impact on bills

2.8 To deliver these objectives as efficiently as possible we have proposed baseline totex allowances for all TOs of £8.9bn, which is £3.1bn lower than business plan submissions, as detailed in Chapter 5.

2.9 This difference is due to three main factors. The first is where we have undertaken a robust assessment of proposed costs and set allowances at what we consider is the efficient level. For the most part we are not rejecting the need for new investments, but we have identified that some of them, as well as broader TO operating costs, could be delivered for less. The second is where we understand the need for the investment but we want TOs, in particular NGET, to provide additional information in response to this consultation before we can

settle on the level of allowances required. The third driver of variation is where we consider that a decision on certain allowances is better made during the period when there is more clarity on what activities and associated expenditure is required. This helps to protect consumers from committing to investment that is not yet properly understood, while providing TOs with a clear pathway to the necessary funding when they have more certainty.

2.10 We propose to retain a stretching but deliverable ongoing efficiency target of 1.0% for all companies across RIIO-3. We consider this reflects the overall scale of investment expected, the opportunities presented from new technologies and approaches, including through data and digitalisation, and efficiency gains and innovation in the wider economy. We recognise that to achieve this, companies will need to find for new ways to drive costs lower, including by becoming more productive and innovative. This could save consumers ~£449m.

2.11 We propose to introduce a new approach to the TIM whereby the sharing rates applied would reduce the further from target totex that the TOs get. We consider that this will help protect TOs from exposure to dramatic cost overruns that are beyond their control, whilst maintaining a strong incentive to keep costs down in areas that TOs can control.

3. Outputs and incentives

Introduction

3.1 This chapter sets out our proposals for the package of outputs and incentives that will apply in RIIO-ET3, including Licence Obligations (LOs), Price Control Deliverables (PCDs), Use-It-Or-Lose-It (UIOLI) allowances and Output Delivery Incentives (ODIs).[5] It focuses on the common outputs which will apply to all TOs – for details of outputs which only apply to a single TO, see the company annexes.

3.2 The outputs are set out under the headings of the RIIO-3 outcomes:

- Infrastructure fit for a low-cost transition to net zero;
- Secure and resilient supplies; and
- High quality of service from regulated firms.

3.3 Table 1 and Table 2 outline all the outputs and incentives we are proposing for RIIO-ET3 and set out where you can find full details.

Table 1: Cross-sectoral outputs and incentives RIIO-3

Output name	**Output type**	**Sector(s)**	**Further detail**
Network Asset Risk Metric (NARM)	PCD, ODI-F and ODI-R	ET, GD, GT	Overview Document
Physical Security	PCD and re-opener	ET, GT	Overview Document
Cyber Resilience	PCD and re-opener	ET, GD, GT	Overview Document
Environmental Action Plan and Annual Environmental Report	ODI-R and LO	ET, GD, GT	Overview Document
Strategic Innovation Fund (SIF)	UIOLI	ET, GD, GT	Overview Document
Network Innovation Allowance (NIA)	UIOLI	ET, GD, GT	Overview Document
Totex Incentive Mechanism (TIM)	ODI-F	ET, GD, GT	This document
Operational Transport Emissions Reduction	PCD	ET, GD	Overview Document

[5] ODIs can be either financial (ODI-F) or reputational (ODI-R).

Table 2: Sector specific outputs and incentives RIIO-ET3

Output name	Output type	Further detail
CSNP-F Delivery	ODI-F	This document
Innovative Delivery Incentive	ODI-F	This document
Connections Capacity	ODI-F	This document
Insulation and Interruption Gas (IIG) emissions	ODI-F	This document
Energy Not Supplied (ENS)	ODI-F	This document
SO:TO Optimisation	ODI-F	This document
Network Access Policy (NAP)	LO	This document
Landscape Enhancement Initiative (LEI)	UIOLI	This document
CSNP Coordination	LO	This document
New Infrastructure Stakeholder Survey (NISES)	ODI-R	This document
SF6 Asset Intervention Plan	PCD	This document

Infrastructure fit for a low-cost transition to net zero

CSNP-F Delivery ODI-F

Purpose: To incentivise the timely delivery of ET projects where this provides a meaningful consumer benefit.

Benefits: To encourage the timely delivery of infrastructure to ensure that consumers realise benefits as early as possible and are compensated for any delay, and to support delivery of the UK's decarbonisation targets.

Background

3.4 In our RIIO-3 Sector Specific Methodology Decision (SSMD), we decided to introduce an ODI-F in RIIO-ET3 to promote the timely delivery of critical infrastructure, building on the ODI-F that applies to Accelerated Strategic Transmission Investment (ASTI) projects.

3.5 We stated our intention to apply the delivery incentive to projects where late delivery has a significant impact (eg an increase in constraint costs) on consumers. We highlighted that the main focus of this incentive, named the CSNP-F ODI-F, would be projects arising from the Centralised Strategic Network Plan (CSNP) which meet criteria relating to project costs and importance of timely delivery. Acknowledging the importance of the NESO's CSNP methodology as an input to this incentive, we said that we would determine both the

approach to setting the target delivery date and the strength of the incentive once we had more clarity on it.

3.6 As highlighted in Chapter 2, during and beyond RIIO-ET3 the TOs will be required to deliver new ET network assets that are critical to the delivery of CP2030 and wider decarbonisation targets. If the ET network is not delivered on time to support growing demand and low carbon generation, it will result in increased costs for consumers due to additional constraint costs. It is therefore important that we incentivise the TOs to deliver the large volume of required investment, but also that we hold the TOs to account for delivering this on time to maximise the consumer benefit of these new assets.

Consultation position and rationale

Summary of consultation position

ODI type: Financial - reward and penalty.

Scope: All CSNP-F Outputs as designated through the CSNP-F Re-opener. Other non-CSNP projects may have the ODI applied on a case-by-case basis, particularly those providing significant consumer value.

Measurement: Delivery date achieved by the licensee in relation to the Target Delivery Date (TDD), subject to minimum availability standard. The TDD is set to maximise consumer benefit, by aligning with an Optimal Delivery Date (ODD) wherever possible - for CSNP projects this will be the NESO's ODD.

Incentive value: Reward: Lump sum for delivery before/on the TDD of 2.5% of forecast totex, and daily reward for early delivery linked to measure of consumer cost/benefit. Deadband: 12-month deadband after the TDD without reward or penalty. Penalty: daily penalty for late delivery calculated as half the daily reward. Maxima: reward cap as 10% of forecast totex, and penalty floor as 5% of forecast totex.

Scope

CSNP-F Outputs

3.7 We propose that all CSNP-F Outputs will have the CSNP-F ODI-F applied. This means all projects that have been designated as CSNP-F Outputs through the CSNP-F Re-opener (see from paragraph 4.112).

3.8 We consider that, as CSNP-F Outputs are optimised as a portfolio of projects (eg through the CSNP) we should incentivise them as such. While an individual project may appear less 'urgent' at the time of designation as a CSNP-F Output (eg if the earliest in-service date (EISD) is earlier than the ODD), if TOs are incentivised to prioritise other projects then these projects may be at greater

risk of delay, leading to a significant reduction in consumer benefit for the portfolio as a whole.

3.9 This is a change from our SSMD position, when we set out that there may be further eligibility criteria focused on a minimum project cost and on a degree of urgency or consumer benefit from timely delivery. We recognise that expanding the scope of the CSNP-F ODI-F to all CSNP-F Outputs means that the total number of projects under the CSNP-F ODI-F increases. While reducing the number of projects subject to the CSNP-F ODI-F could reduce the risk that the TOs are exposed to, most CSNP-F Outputs are likely to be large (eg over £200m) and so the application of a modest threshold would be unlikely to change the risk exposure. A high threshold would risk excluding projects that are critical for achieving consumer benefits of the NESO's plans. We therefore consider, on balance, that it is best to apply the ODI-F to the entire portfolio of CSNP-F Outputs.

3.10 Where a CSNP-F Output has been designated through the CSNP Re-opener process as set out below, we propose to introduce the CSNP-F ODI-F for the CSNP-F Outputs by direction. We consider that this approach is appropriate as we will be in a position to set out the manner and circumstances under which the modification may be made. Relevant parameters will be set out in our Final Determinations - ie the lump sum as a percentage of totex, the reward/penalty values as a percentage of constraint costs, and the cap on the annual and overall reward and penalty. The other required inputs will be published as part of the NESO's publications - ie the ODD, project totex, and constraint costs.

Other projects

3.11 For projects that are not CSNP-F Outputs we will decide whether to apply the CSNP-F ODI-F on a case-by case basis. Such projects might include Load Re-opener projects (discussed from paragraph 4.50) and projects with a 'proceed' signal in the tCSNP2 Refresh (currently expected to be published in 2026).[6]

3.12 To determine whether we can and should apply the CSNP-F ODI-F to projects that are not CSNP-F Outputs, we will consider:

- the consumer benefit of applying the CSNP-F ODI-F, in particular focusing on whether the project is strategically important (eg if it is required to enable key CSNP-F Outputs) and the importance of timely delivery; and

[6] We are considering whether tCSNP2 and tCSNP2 Refresh projects are best progressed through RIIO-ET3 using the Load Re-opener or the CSNP-F Re-opener.

- practicalities of whether we can determine a robust TDD in the absence of an independently developed ODD (eg by NESO), and determine an appropriate value for the incentive to drive the intended behaviour.

3.13 For the Load Re-opener, we propose that whether these projects have the CSNP-F ODI-F applied is considered for each project at the Eligibility Assessment stage of the Load Re-opener process.

3.14 We will consult on any proposal to apply the CSNP-F ODI-F to any non-CSNP projects, setting out our proposals for (i) the application of the CSNP-F ODI to this project, (ii) the proposed TDD, and (iii) the proposed incentive values. Any such incentive would be introduced by licence modification.

Measurement

3.15 The delivery date achieved by the licensee for each CSNP-F ODI-F deliverable will be compared to the relevant TDD to determine the level of reward or penalty that will be applied with respect to that project.

3.16 For CSNP-F Outputs, we propose to use the NESO's ODD as the TDD for each project. We consider that this is an appropriate approach as it represents consumers' interests. The date represents the date on which the project should be delivered to maximise consumer value of the new investment, having taken into account factors including deliverability, constraint costs, and wider system needs.[7] In setting the ODD we understand that the NESO will take into consideration the EISD being proposed by the TOs and the deliverability of the ODD that it has determined, and that it will consult with the TOs as part of this process.

3.17 Projects outside the CSNP that may be recommended by the NESO (eg through the tCSNP2 Refresh) would have ODD as determined by the NESO. We would in these cases again set the ODD as the TDD for the CSNP-F ODI-F.

3.18 For projects without a NESO-recommended ODD, eg those proposed by the TO through the Load Re-opener, we would need to determine an appropriate TDD that is achievable and aligned with system requirements.

3.19 For projects without a NESO-recommended ODD, we would expect the TO to propose a TDD, with justification and evidence as to why delivery on this date is most beneficial for consumers. The TO would also be required to provide and evidence its EISD, to provide context for its proposed TDD. We would then

[7] Centralised Strategic Network Plan High-level methodology and principles | NESO p.52

assess the proposed TDD, before presenting our proposed TDD as part of the consultation discussed in paragraph 3.14.

3.20 We propose that our assessment of the TOs' proposed ODD would consider factors including but not limited to:

- deliverability of that date;
- consumer benefit of delivery on or before that date;
- consumer costs, or lost benefit, if delivery is delayed; and
- wider strategic considerations of the project such as contribution to achieving targets set by government.

Minimum availability standard

3.21 A project shall be considered to be 'delivered' once the asset has been made available for operational service and configuration by the NESO and has been successfully energised, with this evidence provided by the TO or NESO as appropriate.

3.22 Additionally, we propose to include a minimum availability standard such that a project can only be considered to have been delivered if the assets remain operational and available for use by the NESO for a set time following the delivery date, adhering to the minimum availability standards.

3.23 We propose a minimum availability standard for all projects of maintaining at least 93% circuit availability for the period up to 24 months following the date on which the asset is delivered.

3.24 As with ASTI, for the purposes of assessing compliance with this minimum availability standard, we propose to exclude any outage periods required by the NESO or caused by third parties, and routine maintenance, when determining whether the availability standard has been met or not. The TO would be required to demonstrate to us that any outage or maintenance period is caused by the NESO or a third party.

Delay Events

3.25 A Delay Event is an event which is outside of the TOs' control that causes, or is reasonably expected to cause, a project to be delayed by at least 30 days and which is not attributable to any error or failure on the licensees' part.

3.26 We propose that Delay Events will be related to extreme weather events, planning permission and other consents, or other 'force majeure', subject to an assessment to determine whether the TO has demonstrated that it has taken

reasonable endeavours to avoid the delay.[8] We propose not to allow Delay Events that are related to the supply chain, given our expectation that the TOs will make use of the APM to address supply chain constraints.

3.27 An approved Delay Event would delay the date on which a TO would start to incur a late delivery penalty under the CSNP-F ODI-F; eg a one-year Delay Event would mean that the late delivery penalty would start one year later than it would have before the Delay Event was approved.

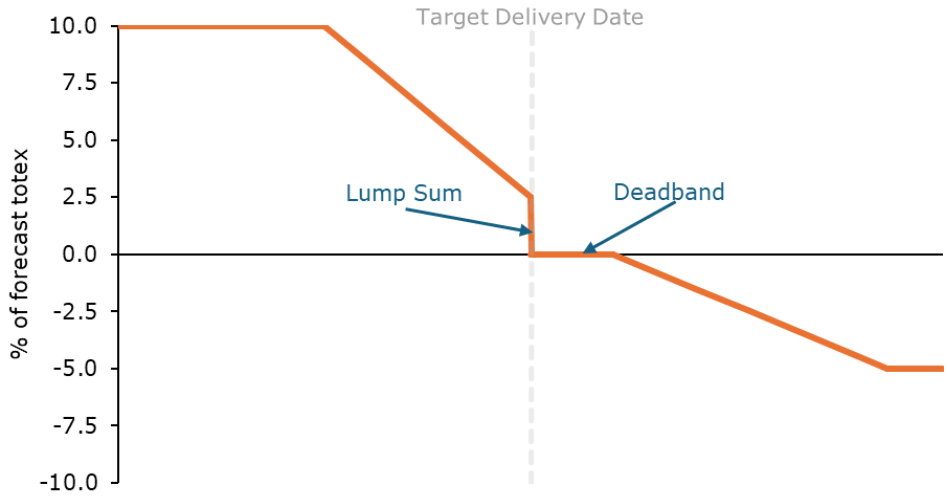
3.28 An approved Delay Event will not change the TDD or when the TO must deliver an asset to be eligible for the reward element of the CSNP-F ODI-F. This means that if the TO delivers the asset at any point after the TDD, under the incentive design proposed in this sub-section, it would not be eligible for any reward under the CSNP-F ODI-F - regardless of any approved Delay Event. The rewards are calibrated to recognise the consumer benefit of on-time delivery and to allow the TO to share in this benefit if it delivers the project on time, and a Delay Event does not change the timeline of these consumer benefits.

Incentive value

3.29 We are proposing an overall incentive which gives a reward for early or on-time delivery, no reward or penalty for late delivery up to 12 months, and then a penalty for late delivery. We intend this to incentivise on-time delivery and to encourage the TOs to take action to avoid delays. Figure 2 below demonstrates the proposed 'shape' of the CSNP-F ODI-F, demonstrating how the reward/penalty differs according to the difference between the TDD and the actual delivery date. The gradient of the diagonal lines (and therefore of when the penalty/reward would reach the relevant cap) will differ by project as discussed further below.

[8] For examples please see the list in the ASTI Guidance Para 5.8: Accelerated Strategic Transmission Investment Guidance And Submission Requirements Document

Figure 2: Proposed shape of the CSNP-F ODI-F



Delivery on or before the TDD

3.30 We propose that the reward element of the CSNP-F ODI-F is comprised of two elements: a lump sum reward for on-time delivery, and an 'early delivery reward' that provides additional incentives if the TO delivers before the TDD. Together, these will provide a strong incentive for timely delivery, tying the TOs' incentives to the consumer impact and reducing the risk of high constraint costs.

3.31 The lump sum on-time reward is to recognise the importance of on-time delivery and to provide a strong incentive for the TOs to meet the TDD. We propose that this would be 2.5% of the forecast totex (at the time of setting the ODI for the project).[9]

3.32 The early delivery reward would accrue daily. This is to recognise the potential value of early delivery, for example in reducing constraint costs. Our approach would differ between CSNP-F Outputs and non-CSNP-F Outputs:

- For all CSNP-F Outputs, and for non-CSNP-F Outputs for which the NESO has forecast constraint costs, the per annum early delivery reward would equal 30% of the NESO's forecast constraint cost associated with one year of delay, as with ASTI. By linking this reward to constraint costs we are seeking to better align the TOs' incentives with the impact on consumers - this element of the incentive allows the TOs to share in the constraint cost

[9] Forecast totex is a key input to the calculation of the incentive value. For CSNP-F Outputs, this will be set by the NESO as part of developing its CSNP proposals, and we will use these values as given for the purpose of setting the CSNP-F ODI-F incentive value. In the case of non-NESO projects, where the forecast totex is proposed by the TO, we may choose to use a value different to that proposed forecast totex for the purposes of the CSNP-F ODI-F (eg if we believe the TO's forecast is too high), we would include any such proposal, and the reasons, in our consultation (see paragraph 3.14) proposing the ODI-F for that project.

savings. We propose that the annual constraint costs used in these calculations would be the estimated constraint costs that would be incurred if the project were to be delayed by one year past the ODD.

- For non-CSNP-F Outputs, where the NESO has not calculated constraint costs, an alternative early delivery reward value will be necessary. We propose a standard per annum reward of the de minimis value of 2% of forecast totex, with alternative numbers only possible if the TO and/or NESO is able to present additional information of exceptional consumer benefit of on-time/early delivery.

3.33 The reward for early delivery excluding the lump sum will be subject to an annual cap of 5% of forecast totex and annual floor of 2% of forecast totex, including the lump sum. The cap ties the incentive value into project values to maintain proportionality. The overall potential reward for early delivery, including the lump sum, will be subject to an overall cap of 10% of forecast totex.

Delivery after the TDD

3.34 We are proposing to introduce a deadband of 12 months after the TDD. A TO that delivers a project during this time would receive neither a reward nor a penalty. We are introducing this deadband as while we do not consider that the TOs should receive any reward for delivering later than the TDD, we consider that beginning penalties immediately after the TDD suggests a high degree of accuracy in calculating the TDD, whereas there is some degree of uncertainty and factors not fully within the TOs' control that could impact delivery timescales.

3.35 We propose that the penalty element of the CSNP-F ODI begins to take effect once the project has not been delivered by one year after the TDD. This penalty will accrue daily, at half the rate of the daily reward element. This is to recognise the potential cost to consumers of late delivery, and by linking this penalty to the constraint cost values we are seeking to better align the TOs' incentives with the impact on consumers.

3.36 We have chosen to set the per annum penalty value at half the per annum reward value to recognise the greater potential for delay than for early delivery.

3.37 This means that the per annum late delivery penalty would equal 15% of the NESO's forecast constraint cost associated with one year of delay, where constraint costs have been calculated (eg as part of the CSNP). For non-CSNP-F Outputs without a NESO forecast constraint cost, the per annum late delivery

penalty would be 1% of forecast totex for those with the 2% per annum reward, or half any alternative reward value determined.

3.38 For all projects with the CSNP-F ODI-F, we set the per annum cap on penalty at 2.5% of forecast totex, per annum floor on penalty at 1% of forecast totex, and the overall cap on the penalty at 5% of totex. We consider that these maxima are appropriate to limit the amount of risk that the TOs are exposed to through the CSNP-F ODI-F.

Questions

ETQ1.	Do you have any views on our proposed approach to which projects will be in scope of the CSNP-F ODI-F, especially projects submitted through the Load Re-opener?
ETQ2.	Do you agree with our proposed approaches to determining a TDD for CSNP-F Outputs and non-CSNP-F Outputs?
ETQ3.	Do you agree with our proposed inclusion of a minimum availability standard in the CSNP-F ODI-F?
ETQ4.	Do you agree with our proposed approach to Delay Events in the CSNP-F ODI-F?
ETQ5.	Do you agree with our proposed shape and size of the CSNP-F ODI-F incentive?

Connections Capacity ODI-F

Purpose: To incentivise TOs to deliver additional network capacity in a timely manner, enabling new generation to access the ET network, in line with TO system requirements.

Benefits: Additional capacity added to the ET network will enable connections customers to connect to the network faster, leaving GB well placed to reach its CP2030 and net zero targets.

Background

3.39 In our SSMD, we decided to replace the two existing connections incentives from RIIO-ET2 with a new financial incentive to drive faster connections times and a more effective overall connections process.

3.40 As part of our Connections end-to-end review of the regulatory framework,[10] we consulted on ideas for a new connections incentive for RIIO-ET3. After

[10] Connections end-to-end review of the regulatory framework, page 60.

considering the responses to this, we have developed two options for an incentive: one focused on the timely delivery of connections projects in the newly reformed connections landscape, and another focused on the increase of capacity through additions specifically funded in RIIO-ET3.

Consultation position and rationale

Summary of consultation position

ODI type: Financial - penalty and reward.

Measurement: Two options: the number of CP2030 projects connected by their target delivery dates; or capacity added to the ET network in each year, measured in MW.

Target Setting Methodology: Either generation capacity added to the network through individual CP2030 connection projects, or the total capacity added through certain types of projects that will be funded through RIIO-ET3.

Incentive Exposure: A cap on rewards of 0.4% of Return on Regulated Equity (RoRE) and a collar on penalties of **-**0.2% of RoRE.

Reporting: TOs will be required to report on performance via our yearly Regulatory Reporting Packs (RRPs).

Applied to: All TOs.

Summary of options

3.41 We are consulting on two incentive options:

- Option 1: Measures TO performance in connecting the generation projects prescribed in the newly reformed connections queue. Once Gate 2[11] reforms are established later in 2025, we will have a clear picture of the connection projects that will be due for completion within the period of RIIO-ET3 for the country to achieve CP2030. TOs would be rewarded for the on-time or expedited connection of these projects and penalised when the delivery is later than prescribed. This is our favoured approach because it remains more closely linked to the connections process and holds TOs to account for the delivery of projects which will see GB achieve its clean power energy targets.
- Option 2: Measures the added capacity, in MW, to the ET network each year by delivered projects funded in RIIO-ET3. An increase in capacity in the network will mirror an increase in connection activity from the TOs. A

[11] Later in 2025 the NESO will provide a reordered and reprioritised queue of connections projects, with the aim of achieving the nation's clean power energy ambitions.

baseline of expected capacity additions, by the end of each reporting year, would be established from submitted business plans (and updated by re-openers). TOs will be rewarded for performance in line with or exceeding the prescribed capacity and penalised when the expected capacity does not materialise on time. We believe this would provide direct TO accountability for delivery of consumer-funded load projects and enable faster connections of generation and demand where this investment is delivered on time. This is our less favoured approach because we consider that a sizeable amount of build projects in RIIO-ET3 will come in the form of re-openers in period. This means baselines will have to be set on an annual basis to allow for projects, creating a moving target. An annual process will need to be formulated to account for these additions.

Target Setting Methodology

Option 1

3.42 We consider that the target number of connection projects will have to be established after Gate 2 reforms have delivered a reordered and reprioritised queue.

3.43 Each project in the queue will have a readministered delivery date.

3.44 We propose that once established, the target for each TO will be set by considering the number of projects each TO has with a delivery date within the RIIO-ET3 price control period.

3.45 In order to be marked as completed, and therefore able to gain a reward, the project will need to be completed by the target date and deliver the amount of MW to the network intended by CP2030.

Option 2

3.46 We propose that target network capacity additions would be set by accumulating the capacity increase we would expect to see from projects that are being funded through the RIIO-ET3 price control.

3.47 We will establish the amount of additional MW we expect to see from each TO by the end of each reporting year, which will form our baseline targets.

3.48 This methodology could be repeated for future price controls, whereas a CP2030 linked proposal would no longer be relevant after RIIO-ET3.

3.49 Working with TOs, we will be able to map the expected capacity to be added to the transmission network by looking at submitted build plans.

Incentive exposure

3.50 Under both options we propose implementing a cap on rewards of 0.4% of RoRE and a collar on penalties of -0.2% of RoRE.

3.51 This proposed higher level of reward compared to penalty reflects the reality that outperformance against each methodology would be challenging to accomplish. To achieve the targets, TOs may be required to change processes and accelerate build programmes, hence a sizeable relative potential upside.

3.52 Additionally, there is a risk of underperformance by the TOs, for reasons both in and out of their control. To limit this risk that TOs carry, we are proposing a smaller downside potential.

Option 1

3.53 For this option, we propose implementing a reward potential per connection identified by the NESO in the Gate 2 update.

3.54 Each project that a TO connects will have the ability to lead to a reward for on time or early delivery against its originally identified connection date, and a penalty for late delivery.

3.55 The overall reward or penalty each TO can gain throughout the price control period will be established through accumulating the financial results (penalty or reward) of all of its connection projects within RIIO-ET3.

3.56 This will have to be established once we know the output of the Gate 2 reforms, as we will know how many projects each TO has and we will be able to work within the RoRE limits we have set.

Option 2

3.57 For this option, we propose an approach where the overall level of penalty or reward will be determined by how far the TO's actual capacity additions (in MW) is from the target.

3.58 We propose six groupings to determine the level of reward or penalty, when TO performance (p) is:

- $0\% \leq p \leq 5\%$ above of target;
- $5\% < p \leq 10\%$ above of target;
- $p > 10\%$ above of target;
- $0\% < p \leq 5\%$ below the target;
- $5\% < p \leq 10\%$ below the target; and
- $p > 10\%$ below the target.

3.59 In practice, this means that a TO which performs far below its target will be penalised more heavily than a TO which very slightly misses its target.

3.60 Additionally, performance precisely on its target would lead to a reward the same value as overperforming by a small amount.

3.61 We think it is important for TOs to be rewarded for achieving their target, but with scope to receive greater rewards if they exceed their targets handsomely.

Reporting

3.62 We propose to include reporting of TOs performance against their individual yearly targets in the RRP. This will inform consumers of TO performance in period and allow for monitoring in the run up to CP2030 deadlines.

Future of the Quality of Connections Survey (QoCS)

3.63 Despite our SSMD setting out that the Quality of Connections Survey (QoCS) ODI-F would be removed from RIIO-ET3, we are aware that TOs have a desire to retain this financial incentive.

3.64 Our concerns with it remain. We consider that the small sample sizes lead to a lack of robust and stable data, mainly at the later milestones of the survey. This is problematic as it risks scores being unduly influenced by individual customer responses.

3.65 The ET network is entering a period of rapid expansion. As such, there are concerns from TOs that the voices of connections customers may be lost in the pursuit of clean energy targets, and that having a direct survey of customers is important to fully understand their experience. Following submission of their business plans, TOs proposed that we reform QoCS and retain it as an ODI-R for year one of RIIO-ET3, before moving back to an ODI-F for years two to five, once a baseline of performance is established.

3.66 While we are open to retaining QoCS at a reputational level, we would require compelling assurances to allow it to be an ODI-F once again. If TOs want a financially incentivised QoCS we ask them to set out jointly in their Draft Determinations responses how they would reform QoCS, including with reference to how they propose to counteract historically low response numbers, any minimum response thresholds they suggest implementing and the common milestones when customers should be surveyed. We will take any submission of this nature into consideration in our Final Determinations.

Questions

ETQ6.	Which of the two proposals for the Connections Capacity ODI-F target setting methodology do you think is most appropriate and why?
ETQ7.	Do you have any further considerations on our chosen direction for a RIIO-ET3 Connections Capacity ODI-F, including detail on how the targets could be built up?

Community Benefit Funding pass-through mechanism

Purpose: To provide TOs with funding to enact the government's Community Benefit Funding policy.

Benefits: Improved community buy-in to the construction of new ET infrastructure, reducing ET build times.

Background

3.67 In our SSMD we noted that in 2023 the UK government proposed to move forward with new community benefits guidance, and that we would continue to work with them to ensure the price control aligns with policy priorities as appropriate.

3.68 Government has since published voluntary guidance for community funds for ET infrastructure which standardises funding levels on a per-asset basis for each project that falls in scope.[12]

Consultation position and rationale

Summary of consultation position

Indicative allowances: Up to £200,000 per km of overhead line and £530,000 per substation, converter station, or switching station.

Delivery costs: Potentially up to and no more than 10% in addition.

Closeout: No review of the main community funds costs, but ex post review of the delivery costs if we need further assurance.

[12] www.gov.uk/government/publications/electricity-transmission-network-infrastructure-community-funds

Indicative allowances

3.69 Government has proposed that TOs and developers may provide community funds totalling £200,000 per km of overhead line, and £530,000 per substation, converter station, or switching station. The scope of the guidance includes all new onshore ET infrastructure, and voltage upratings which trigger an environmental impact assessment.

3.70 We welcome policy to accelerate ET infrastructure development and have drafted a pass-through mechanism to enable the costs to be recovered from network charges.

Cost of delivery

3.71 The level of funding for community projects is set in the government guidance (see paragraph 3.69). In addition to the community funds, government has provided that TOs may spend no more than 10% of the community funds total on administrative costs related to project delivery (eg capacity building, feasibility work, staff costs, engagement, marketing, PR costs, third-party administrator costs, and governance costs).

3.72 We see 10% as an upper limit which should not, in normal circumstances, be reached. We expect the delivery costs associated with the community funds to be economic and efficient and demonstrably additional to other already-funded activities, and that the amount of funding needed for administration costs should normally be significantly under the 10% limit set by government. We expect TOs to achieve economies of scale by organising the administration costs at a portfolio rather than project level.

Assessment at RIIO-ET3 closeout

3.73 We will not assess the main community funds, as the funding level is determined on a per-asset basis by the guidance.

3.74 We expect TOs to submit an annual breakdown of the delivery costs they have incurred or expect to incur, and for cost recovery to be annual via RRPs and Annual Iteration Process (AIP). We do not expect to need to have to review the administrative costs where these meet our expectations described at paragraph 3.72, but where we identify the need for further assurance, eg higher costs than we'd expect, unclear reporting or activities that aren't permitted within the guidance, then we will conduct an ex post review at a portfolio level.

Questions

ETQ8.	Do you agree with our proposed design of the Community Benefit Funding pass-through mechanism?

Environmental Action Plan and Annual Environmental Report ODI-R commitments and outputs

Purpose: To ensure TOs outline their environmental commitments for RIIO-ET3 and demonstrate their performance against these commitments annually.

Benefits: A more environmentally sustainable network which focuses on mitigating emissions, limiting impact on the natural environment, and ensuring efficiency in operations.

Background

3.75 The Environmental Action Plan (EAP) and Annual Environmental Report (AER) ODI-R is a cross-sectoral output. Reflecting this, our consultation on overall RIIO-3 policy design can be found in the Overview Document.

3.76 Avoiding, mitigating, and compensating environmental impact is a key stakeholder expectation. As set out in our RIIO-3 Business Plan Guidance, the common areas of EAP considered by all sectors are Business Carbon Footprint (BCF), embodied carbon, biodiversity and natural capital, resource use, and supply chain. Insulation and Interruption (IIG) emissions, transmission losses, and environmental pollution are additional ET sector specific issues the TOs must consider.

3.77 This section provides our consultation position on the TO's proposed EAP commitments within key guidance areas. Bespoke outputs and UMs are discussed separately as indicated. Given the high number of individual commitments, where a commitment is not discussed it should be taken as meaning we are consulting on accepting it without amendment.[13]

Consultation position and rationale

Summary of consultation position

Funding level: Propose to accept EAP commitment funding requests except where indicated.

BCF targets: All TOs retained science-based targets (SBT) for emissions reduction. We propose to accept the TOs' target proposals.

[13] For the full list of each TO's EAP commitments, please see the respective EAP (NGET - Supporting documents | RIIO-T3; SHET - Sustainability-action-plan.pdf; SPT - Environmental Action Plan - RIIO-T3 Business Plan - SP Energy Networks)

Insulation and Interruption (IIG) emissions: Bespoke SF6 asset intervention PCD proposed for NGET and SHET. Accept baseline funding for SPT.

Transport emissions: Propose new common Operational Transport Emissions Reduction PCD - see Overview Document.

Building energy use: Propose to accept baseline funding proposals by SPT and SHET. Propose to reject NGET's EAP commitment.

Transmission losses: Propose to accept the EAP commitments made by the TOs.

Carbon compensation and offsetting: NGET and SPT made EAP commitments, see Chapter 4.

Embodied carbon: Propose to accept the EAP commitments made by the TOs, excluding costs associated with the low carbon construction materials and opportunities UIOLI which we are proposing to reject, see Chapter 4.

Supply chain: Propose to accept the EAP commitments made by the TOs.

Resource use, waste and circular economy: Propose to accept the EAP commitments made by the TOs.

Biodiversity and natural capital:

Propose to accept EAP commitments made by TOs to provide 10% Biodiversity Net Gain (BNG) for projects requiring planning consent, plus other environmental compensation activities required by legislation, and to reject commitments to deliver additional biodiversity compensation beyond 10% BNG for planning consent.

Propose enhanced common reporting requirements on biodiversity delivery and cost.

For our consultation position on new SHET marine BNG output and Species and Habitat UIOLI proposals, see SHET Annex.

Environmental pollution: Propose to accept the EAP commitments made by SPT and SHET. Propose to reject NGET's EAP commitment.

Funding level

3.78 Costs in the TOs' EAPs can be associated with distinct EAP commitments, deliverables tied to broader RIIO-ET3 projects, or UMs.[14] In their business plans, TOs proposed costs associated with EAP commitments totalling approximately

[14] EAP commitments are not defined RIIO outputs, however, are funded network activities through the price control.

£1.9bn.[15] Our consultation position is to approve EAP commitments associated with £624m of cost requests (including PCD and UIOLI mechanisms) and reject or propose modification to £686m. A further £595m is associated with UMs, much of which is dependent on project delivery.

3.79 The indicated EAP costs in RIIO-ET3 are a significant increase compared to RIIO-ET2, which saw £81m included in baseline allowances. This is primarily due to:

- a significant increase in planned construction work in RIIO-ET3 and the associated environmental requirements for planning consent and other compensation and mitigation activities;
- a high cost of new Low Carbon Construction Materials and Opportunities UIOLI proposals from all the TOs, with no comparative embodied carbon proposals in RIIO-ET2; and
- instances of increased scope of included costs in the EAPs compared to RIIO-ET2.

3.80 Some TOs also highlighted that the cost associated with the delivery of EAP commitments will be larger than indicated in their business plans. This is related to biodiversity costs, which are discussed in paragraphs 3.112-3.121.

3.81 There were also some differences in which costs TOs included in the EAP as opposed to the wider business plan (eg varied inclusion of costs associated with Electric Vehicles (EVs) and charging infrastructure in the EAP). To ensure consistency, all relevant costs across the business plans have been considered in our EAP assessment.

3.82 We propose to accept most company EAP commitments. The modifications we have identified are either to align policy across ET and/or other sectors, because we propose an alternative policy design, or because there is a lack of needs case justification and/or output clarity. We have highlighted the cases where TOs must provide further information to justify their funding request.

[15] Costs quoted in the EAP and AER ODI-R section of this document are the requested costs in the TOs' business plans, as such, the figures do not include any amendments (where applicable) to reflect unit cost modelling through the Project Assessment Model (PAM) and the application of ongoing efficiency.

BCF science-based targets (SBTs)

3.83 In our RIIO-3 Business Plan Guidance we requested the TOs adopt or retain SBTs for emissions reduction.[16] All the TO's adopted SBTs that were validated by the Science-based Target Initiative (SBTi) in RIIO-ET2, with targets in RIIO-ET3 as follows:

- NGET - Reduce Scope 1 and 2 GHG emissions by 50% by 2029/30 against a 2018/19 baseline. Includes Losses.
- SHET - Reduce Scope 1 and 2 GHG emissions by 46% by 2029/30 against a 2018/19 baseline. Excludes Losses.
- SPT - Reduce Scope 1, 2 and 3 emissions by 67.2% by 2035 against a 2018/19 baseline. Includes Losses.

3.84 There are also further TO commitments to reduce Scope 3 emissions, transmission losses, and long-term net zero targets related to the above SBTs. Notably, SPT have provided a new additional target to achieve net zero (ie 90% emissions reduction) by 2035 as an ambition on top of the SBTi target quoted above.

3.85 We consider the BCF reduction targets proposed by the TOs are acceptable, as they represent continued progress against historical emissions and are validated by SBTi methodology. We welcome the ambition shown by SPT in its aim to reduce emissions at an accelerated rate to its SBTi glidepath. Although this remains an aspiration with limited detail as to how it may be achieved, we encourage all companies to consider how emissions reduction may be efficiently achieved beyond their targets.

3.86 Based on their proposed outputs, NGET and SPT forecast to achieve their SBTi targets in RIIO-ET3. SHET does not forecast to achieve its SBTi target unless using its most ambitious scenario. Having reviewed all the TOs' EAP commitments, we do not see any clear areas where SHET is notably lacking in comparison to the other TOs, noting some contextual differences (eg small emissions baseline, less proportional Sulphur Hexafluoride (SF6) emissions). We encourage SHET to provide further proposals on how it may achieve its target during RIIO-ET3.

3.87 NGET and SHET mentioned in their business plans that they may review their emissions targets given the increased scope of their wider business activities

[16] An SBT for GHG emissions is consistent with what the latest climate science says is necessary to meet the goals of the Paris Agreement - to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

compared to their baseline year. SHET also mentioned it may re-evaluate its long-term net zero goals. Our expectation is any re-evaluation should be done on a scientific basis, as with current targets.

IIG emissions

3.88 SF6, a type of IIG,[17] is used in the ET network because it has exceptional insulating properties. However, it has a Global Warming Potential (GWP) 24,300 times stronger than CO_2, meaning leakage is extremely harmful to the environment and the primary driver of TO emissions. Increasingly non-SF6 IIGs and IIG-free alternatives are being used on the networks instead of SF6.

3.89 All the TOs provided an IIG strategy to achieve IIG emissions reduction broadly in line with their SBTi targets.[18] The TOs' IIG strategies include activities such as leakage management and prevention (eg improved monitoring and protective coating application), asset intervention, retro-filling of SF6 assets with IIG alternatives with lower GWP, and removal of SF6.

3.90 In addition to leakage reduction, all the TOs have made commitments to the effect of using alternatives to SF6 where technically and commercially viable in RIIO-ET3.[19] This is reflected in IIG inventory forecasts in RIIO-ET3, with absolute reduction in SF6 banks for NGET and SPT over the period (assuming supply chain availability).

3.91 We are consulting on accepting the TOs proposed IIG strategies without any material amendment. This includes our proposals to set an SF6 Asset Intervention PCD for NGET and SHET, as set out in paragraphs 3.147-3.159, and baseline funding request for £10.51m by SPT.

3.92 Our consultation position on the related IIG emissions ODI-F is set out in paragraphs 3.124-3.146 below.

Transport emissions

3.93 Transport emissions are another directly controllable emissions source of the network companies. In line with our Business Plan Guidance, all the TOs have made EAP commitments to reduce transport emissions in RIIO-ET3 by

[17] Means a gas with a global warming potential of greater than one, used within electrical switchgear and transmission assets with a suitable dielectric strength to enable use as an insulator to prevent discharge or as an interruption aid to prevent flow of current during planned or non-planned switching.
[18] Note SHET's IIG strategy was provided separately to its main EAP document. We encourage the public sharing of this, or an equivalent paper, given the lack of IIG strategy clarity in the EAP for stakeholders.
[19] NGET's commitment on the use of SF6-free alternatives is a slight outlier, including the addition of 'timely' consideration on top of 'commercial' and 'technical' feasibility.

continuing the transition to EVs from RIIO-ET2. All TOs, either directly or via their parent companies, have adopted the target of 100% EV use where feasible by 2030 as part of the EV100 initiative.[20] To achieve this target, funding was also requested for charging infrastructure by NGET and SHET.

3.94 We propose to continue to fund network companies to reduce transport emissions, however, we have requested more information as part of this consultation to better inform vehicle unit rates. As such, total EV and charging infrastructure allowances (NGET £62.07m, SHET £84.18m, and SPT £11.6m) may be subject to change at RIIO-ET3 Final Determinations. For more detail, including our proposal to expand NGET's Operational Transport Carbon Reduction PCD to all TOs and GDNs, see the Overview Document.

Building energy use

3.95 Building energy use is another of the TOs' directly controllable emissions sources. All the TOs have made related EAP commitments, primarily focused on the reduction of emissions associated with substation energy use.

3.96 The cost proposals associated with building energy use total: NGET £56.4m, SHET £0.98m, and SPT £9.18m. We are consulting on accepting the SHET and SPT proposals with no changes but rejecting the NGET proposals.

3.97 Although we support energy efficiency measures in principle, the costs provided by NGET do not provide value for consumers when compared to industry benchmarks (ie typical solar costs) and the other TOs (ie the number of substations being enhanced per £m spent). See Appendix 1 of the NGET Annex for more detail on our position.

Transmission losses

3.98 Losses refer to electricity that is lost between being put onto and exported from the network. Some estimates consider losses to be approximately 10% of generated electricity. Most losses are incurred in the ED network, but approximately 2.5% still occur in ET. Losses contribute significantly to TO BCFs and result in higher system costs.

3.99 Although ET losses are largely the result of NESO decisions regarding specification and usage of the electricity system, the TOs do have some influence - either directly or indirectly (eg asset procurement decision-making).

[20] EV100 is Climate Group's global initiative for companies to switch owned and contracted fleets up to 7.5 tonnes to EVs on road transport and installing charging infrastructure for employees and customers by 2030.

3.100 In our SSMD we proposed to retain transmission losses as a requirement of the EAP ODI-R. One respondent to our Call for Evidence raised concern at an apparent lack of focus on losses by the TOs in their business plans, and by us and the NESO more broadly (eg regarding the whole system benefits of reducing losses).

3.101 In RIIO-ET3, losses are estimated to increase significantly due to network expansion (eg SPT estimate a 335,876 MWh annual increase equivalent to 37% by the end of the price control). However, exactly how much transmission losses will increase is uncertain. Information provided in the business plans varied, with only SPT providing both MWh and t/CO_2e forecast figures. SHET did not provide any forecasts on losses at all. The TOs also noted some forecasting uncertainties and areas for improved measurement. Current uncertainties limit insight into what opportunity there is for the TOs to influence losses.

3.102 At the same time as losses increasing, associated emissions are forecast to reduce significantly by the end of RIIO-ET3 due to energy system decarbonisation. Although this is clearly positive, it does not alleviate concerns regarding associated system costs - with SPT estimating a total cost increase of £86m on its network. We also question whether the achievement of BCF targets that include emissions from losses could risk distorting the view of TO performance in more directly controllable emissions areas.

3.103 In their business plans the TOs made the following commitments (with no associated funding):

- NGET - Implement a strategy to efficiently manage both technical and non-technical energy losses.
- SHET - By 2030, reduce the carbon intensity of transmission losses on its network by 50%.
- SPT - Reduce losses on its network by an estimated 4,781 MWh, thereby limiting losses to a lower level than would otherwise be the case.

3.104 We welcome the commitments from the TOs and acknowledge them as the continuation of RIIO-ET2 policy direction, with some aspects of transmission losses strategies now business-as-usual (BAU) (eg procurement decision-making considerations).

3.105 Despite this, we were disappointed with the lack of detail provided and ambition shown by NGET and SHET. As such, losses were factored into our decision-making at Stage C of our BPI assessment. We encourage the TOs to continue building the evidence base that demonstrates how their decision-making can

impact losses, the business case for investment, and what opportunities there are to collaborate with NESO to limit system impact.

3.106 In response to this consultation, we welcome views on what increased role the TOs could play in managing the risks associated with increasing losses, and whether the newly proposed Innovative Delivery Incentive (see paragraphs 3.212-3.230) or SO:TO ODI-F (see paragraphs 3.186-3.211) may be an appropriate tool to incentivise increased action.

Embodied carbon

3.107 As per our Business Plan Guidance, companies should report on and set targets to reduce embodied carbon in new projects in RIIO-ET3.[21] All the TOs have adopted Scope 3 SBTs as part of their BCF commitments that include embodied carbon. These targets are:

- NGET - Scope 3 target of 25% reduction by 2029/30 on a 2019/20 baseline.
- SHET - Aim to reduce Scope 3 emissions by ensuring that two thirds (67%) of suppliers by spend will have a SBT by 2024/25 (which they have achieved). Do not have an emissions-based Scope 3 target.
- SPT - Scope 3 included in its overall SBTi target of 50.4% reduction from a 2018/19 baseline by 2031.

3.108 The TOs have jointly proposed a new common UM, referred to as the Low Carbon Construction Materials and Opportunities UIOLI, to reduce embodied carbon emissions by funding the cost associated with using low carbon materials. Our consultation position on this and the related Net Zero Capital Carbon Construction UIOLI (re-named the Carbon Compensation UIOLI) is set out in Chapter 4.

3.109 The UM is in addition to non-funded and low materiality EAP commitments, such as the achievement of the PAS2080 carbon management standard, which we propose to accept.

Supply chain

3.110 All the TOs made EAP commitments to engage their supply chain on sustainability and set targets for the percentage of suppliers with climate targets (eg >80% suppliers by value meeting TO environmental code and/or have their

[21] Embodied carbon is defined in the UK Green Building Council as "The total greenhouse gas (GHG) emissions (often simplified to 'carbon') generated to produce a built asset. This includes emissions caused by extraction, manufacture/processing, transportation and assembly of every product and element in an asset" - UK Green Building Council website https://www.ukgbc.org/wp-content/uploads/2017/09/UK-GBC-EC-Developing-Client-Brief.pdf

own SBT). We propose to accept all related EAP commitments without amendment, as they met the Business Plan Guidance requirements and have minimal to no direct cost.

Resource use, waste and circular economy

3.111 All TOs set targets regarding waste to landfill/recycling rates and recycled and reuse material usage as per the Business Plan Guidance. Various other EAP commitments also include alignment to BS8001 circular economy standards (NGET and SPT) and new water footprint considerations (NGET). We propose to accept all related EAP commitments without amendment, as they met the Business Plan Guidance requirements and have minimal to no direct cost.

Biodiversity and natural capital

3.112 In our SSMD, we proposed to remove the various bespoke mechanisms involving biodiversity in RIIO-ET2 (eg NGET Environment Scorecard ODI-F, SPT Enhanced Environmental Requirements UIOLI). Instead, TOs were guided to include biodiversity in the costs for delivering associated projects. In parallel, the TOs are also required to report on their environmental impact and related actions in the AER ODI-R.

3.113 In RIIO-ET3, various EAP commitments are proposed by each TO in relation to biodiversity and other environmental impact mitigation activities. Overall, these indicate a significant increase in related expenditure compared to previous price controls (ie estimates suggest >£1.5bn in cost when considering the full project pipeline). The increase is primarily tied to the quantity of construction activities required to deliver net zero infrastructure and significantly increased BNG market unit costs compared to those at the start of RIIO-ET2 (the TOs all used Statutory BNG Credit prices as a cost reference due to BNG unit uncertainty).

3.114 Despite a clear step change in allowance quantities, exact BNG allowances are currently unclear due to challenges in forecasting biodiversity costs and outputs early in the construction lifecycle, with most costs only indicated and not included in baseline allowances.

3.115 The primary EAP commitment made by all TOs is to deliver 10% BNG on all construction projects that require planning consent in RIIO-ET3. For NGET, this equates to compliance with biodiversity legislation in England. For SPT and SHET, this is more than the legislative requirement of delivering a 'positive effect' in Scotland. Our consultation position is to accept this commitment for all TOs, and fund associated project costs once identifiable. Our rationale is that:

- TOs should be funded to meet environmental legislation to gain planning consent;
- alignment of 10% BNG across the sector provides clarity to stakeholders, as well as equal outcomes across GB;
- 10% BNG seems a justified goal for Scottish TOs based on the 'positive effect' legislative requirement and regional stakeholder expectations in Scotland highlighted by the TOs; and
- the target does not prevent BNG above 10% if required, however, a higher minimum requirement would risk significantly increased costs for consumers given the extent of biodiversity requirements in RIIO-ET3.

3.116 Another common theme in the TOs' EAPs is a commitment to deliver biodiversity compensatory actions in addition to 10% BNG on projects that require planning consent. The TOs made the following proposals:

- NGET – Deliver 10% BNG on all construction activities in addition to those requiring planning consent.
- SPT – Deliver Natural Capital enhancement across projects with a measurable impact on ecosystems, achieved through local strategic nature partnerships.
- SHET – Marine BNG outputs (£44.55m); Species and Habitat Restoration UIOLI (£26.7m).

3.117 No funding was included in NGET's Business Plan related to this commitment. NGET highlighted uncertainty in its current biodiversity cost estimates, with most costs expected through UMs. Despite this, it is clear NGET's overall biodiversity costs will be material in RIIO-ET3. This specific commitment, which widens the scope of considered projects beyond biodiversity legislation to include those that do not require planning consent, is estimated to contribute a moderate proportion of these significant costs (ie upwards of £100m). There was also no funding specified by SPT in its business plan in relation to this specific commitment. As such, we have interpreted its commitment as similar in meaning and consequence to NGET's.

3.118 Our consultation position is to reject the proposals listed in paragraph 3.116 as we are concerned about the consumer value of these additional commitments. We acknowledge stakeholder concern for managing network environmental impact as a key issue, as well as evidence shared by some TOs showing support for action beyond legislative requirements (largely from environmental groups). Our rationale is that:

- the primary commitments made by all TOs to deliver 10% BNG for projects that require planning consent already provides increased environmental outcomes for in scope projects compared to 'no net loss' commitments in RIIO-ET2;
- there is already significant increase in the scope of work and costs associated with delivering 10% BNG on projects that require planning consent compared to biodiversity costs in previous price controls. We expect it to be challenging to deliver this optimally, irrespective of additional commitments;
- there is an increased cost burden of wider business plan activities for consumers; and
- it is challenging to determine what environmental compensation beyond legislative requirements should be considered proportional or good value.

3.119 We also have concerns regarding the appropriate role of the TOs in funding research and internal capability development in this area, given it is not a core business activity related to the ET network. For more detail on our position regarding the SHET marine BNG outputs and Species and Habitat Restoration UIOLI proposals see the SHET Annex.

3.120 We understand from engagement with the Scottish government that due to differences in the planning and consenting regime in Scotland compared to other parts of the UK, they are concerned there is a risk of sub-optimal outcomes from biodiversity funding in Scotland. We expect TOs to ensure their biodiversity approach delivers both cost efficiency and environmentally optimal outcomes in both England and Wales, and Scotland. Dependent on the project requirements and the latest guidance from relevant bodies (including non-statutory guidance from devolved or regional governments or their agencies), this may mean either onsite or offsite delivery. This may also include strategic investments in addition to meeting national planning policy and consenting requirements, used to achieve 10% BNG.

3.121 In respect of increased biodiversity materiality in RIIO-ET3, we propose enhanced common reporting on biodiversity as part of the RRPs in RIIO-ET3 to improve understanding of costs and associated outputs, as well as continued reporting in the AER ODI-R.

Environmental pollution

3.122 Reducing pollution to the local environment is another common area of the EAPs. In RIIO-ET2, this saw all the TOs commit to remove polychlorinated

biphenyl (PCB) by 2025 as well as make oil pollution related commitments. In RIIO-ET3 the TOs' EAP commitments included:

- NGET - Reduce oil contamination risk through improved asset management practices (£11.4m); install alternative to oil filled installation where possible; maintain and update environmental systems.
- SHET - Complete contaminated land site surveys on all sites where contaminated land risk has been identified by 2030 (£7.25m).
- SPT - Replace 32.4km (28% of its inventory on the network) of its leakiest fluid filled cables (FFC), removing over 47,080 litres of oil from its network (£47.54m); upgrade existing or install new bunds associated with 27 transformers (£7.43m).

3.123 We note that the difference in materiality of requests is related to different inclusions/exclusions in the EAPs by the TOs (eg inclusion of cable works). Although we fully support efforts to reduce local environmental pollution, we propose to reject NGET's £11.4m funding request due to engineering justification concerns. We propose to accept all other commitments. Please see Appendix 1 of the NGET Annex ('T3 - Substation Infrastructure Civils') for more detail on our position.

Questions

ETQ9.	What are your views on our consultation positions for the TOs' EAP commitments in RIIO-ET3?
ETQ10.	Do you have any views on whether the Innovative Delivery Incentive and/or SO:TO ODI-F should be used to incentivise TO action regarding transmission losses?
ETQ11.	Do you have any views on our proposed approach to biodiversity funding, notably whether it is appropriate or not for consumers to fund biodiversity outputs beyond legislative requirements?

Insulation and Interruption Gas (IIG) emissions ODI-F

Purpose: To incentivise a reduction in the leakage of IIGs from assets on the ET network, and to support the transition to low GHG alternative IIGs.

Benefits: Reduction to the volume of harmful leakage of GHG emissions from GB's ET network.

Background

3.124 In our SSMD we stated that we intended to set more ambitious IIG incentive targets, tied to the SBTs adopted by all TOs in RIIO-ET2. We decided not to introduce a deadband and also encouraged the TOs to propose outputs for the replacement and removal of SF6 assets to achieve their emissions reduction goals.

3.125 In response to our Call for Evidence, one stakeholder highlighted the comparatively different IIG emissions performance levels and contexts of each TO as we enter RIIO-ET3.

Consultation position and rationale

Summary of consultation position

ODI type: Financial - penalty and reward.

Targets: Set individually for each network.

Target setting methodology: Calculated using each TO's proportional SBTi aligned IIG emissions reduction pathway. Yearly average from a 2018/19 baseline to 2030/31.

Deadband: Bespoke asymmetrical deadband for SHET, none for NGET and SPT.

Measurement: IIG emissions, measured in tCO_2e, and calculated according to each TO's IIG Methodology Statement.

Incentive value: Reward/penalty calculated by applying the value of CO_2 equivalent (using the Non-Traded Carbon price), for every ton over or below the target. TIM sharing factor applied.

IIG methodology statements: Maintain principles and processes from RIIO-ET2.

Associated bespoke outputs: All TOs requested funding. NGET and SHET have proposed bespoke PCDs for SF6 asset interventions, see company annexes. Emissions reduction related to bespoke outputs will not be excluded from the incentive.

IIG exceptional events: Propose increased materiality threshold and tightening of definitions.

Historical IIG inventory: Use IIG Exceptional Event mechanism to mitigate issue of inaccurate IIG inventory data distorting performance figures.

Applied to: All TOs.

Targets and target setting methodology

3.126 Table 3 shows the proposed targets for each TO in RIIO-ET3, as well as their 2018/19 baseline emissions. All figures use the latest Intergovernmental Panel

on Climate Change (IPCC) Sixth Assessment Report (AR6) GWP measures (eg the GWP of SF6 is 24,300).

Table 3: Proposed RIIO-ET3 IIG ODI-F annual targets and 2018/19 baseline year (IIG emissions in t/CO_2e)

	18/19 (baseline)	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**
NGET	298,161	189,739	176,186	162,633	149,081	135,528
SHET	1,990	2,988	2,684	2,396	2,021	2,045
SPT	20,436	13,570	12,711	11,853	10,995	10,136

3.127 We propose that IIG incentive targets should be calculated using each TO's proportional IIG emissions reduction pathway required to achieve its SBTi targets, taking a yearly average from a 2018/19 baseline to 2030/31, to create annual t/CO_2e emissions targets as shown in Table 3.

3.128 In their business plans, NGET and SPT proposed targets to reduce IIG emissions at the same rate as required for their overall SBTi targets. Given SF6 emissions are the majority contributor to their BCFs, we agree that this is a proportional rate to target IIG emissions reduction at over RIIO-ET3.

3.129 SHET proposed an alternative targeting methodology involving a bespoke target of a 0.26% leakage rate over RIIO-ET3, based on historical performance. SHET reasoned that its BCF SBTi target is the maximum emissions reduction it can achieve in RIIO-ET3, meaning a separate target that is lower than this would be more appropriate to incentivise attainable performance against.

3.130 We disagree with the SHET proposal, as in our view it would not hold SHET to account for worsening performance. For example, given the proposed target is a leakage rate and their SF6 inventory is projected to increase in size over RIIO-ET3, an emissions increase in absolute terms could feasibly be rewarded. Despite this, we do believe there is justification for some bespoke methodological treatment of SHET because it has:

- relatively low 2018/19 baseline year IIG emissions and leakage rates;
- proportionally high growth of SF6 inventory since the 2018/19 baseline year;
- smaller proportional weight of IIG emissions to overall SBTi achievement; and

- industry leading IIG leakage rate and emissions to date in RIIO-ET2.

3.131 These factors mean to achieve IIG emissions reduction at a parallel rate to its overall SBTi glidepath, SHET would need to achieve an extremely challenging SF6 leakage rate by 2030/31 to gain reward (eg approximately 0.05%). This would be below some expected operating levels and far beyond the forecasted performance of the other TOs. SHET also demonstrated the limited value given the associated cost of any additional asset interventions to achieve such ambition.

3.132 Instead, we propose to use a leakage rate of 0.10% by 2029/30 as the performance benchmark for SHET. This target was provided by SHET as its SBTi aligned IIG emissions pathway (along with other wider BCF reduction activities). We propose that continuing this pathway below 0.10% into 2030/31 would also risk becoming overly challenging and so have used this leakage rate to calculate the target for 2030/31 as well.

3.133 To achieve commonality, we propose to set the targets for SHET by extrapolating annual targets using a yearly average from a 2018/19 baseline and measuring in t/CO_2e.

3.134 The increased ambition of this new methodology is demonstrated in Table 4 below, which demonstrates the estimated leakage rate required by each TO at the end of RIIO-ET3 using the proposed methodology, compared to RIIO-ET2 baseline targets and current performance.

Table 4: Comparison of estimated leakage rate requirements in RIIO-ET3 compared to RIIO-ET2 baseline targets and performance

	Baseline leakage rate target at the start of RIIO-2	**Leakage rate in 23/24**	**Estimated leakage rate required by the end of RIIO-ET3**
NGET	1.18%	1.05%	0.60%
SHET	0.33%	0.15%	0.10%
SPT	0.79%	0.54%	0.34%

Deadband - SHET only

3.135 SHET also proposed a bespoke asymmetrical deadband of a 0.4% leakage rate, based on an industry average performance calculation, that would protect it from penalty unless its performance dropped below it. Despite our SSMD position that this incentive does not require a deadband, we agree that there is justification for SHET in order not to unfairly penalise a high performing company.

3.136 We propose this deadband should be set at 3066 t/CO_2e for each year of RIIO-ET3. This would mean annual emissions between this and SHET's annual targets (see Table 4) would result in no penalty.

3.137 We calculated the deadband using a historical average of SHET's IIG emissions from 2018/19-2023/24. We believe this approach ensures SHET is still held accountable for worsening performance, whilst ensuring reward is only achieved for performance improvements beyond SBTi minimum expectations.

Associated bespoke outputs

3.138 In RIIO-ET2, the IIG incentive methodology adjusts annual performance targets based on in-period IIG inventory changes. The methodology also excludes emissions reduction associated with SF6 emissions outputs (eg NGET SF6 Asset Intervention PCD & Re-opener).

3.139 We propose removing these target adjustment mechanics from the IIG incentive. This broadens the scope of the IIG incentive, rewarding or penalising the delivery of the TO's overall IIG strategy, rather than the more operational activities linked to IIG asset and leakage management. We believe this helps simplify the incentive and is more suited now targets are based on forecasts instead of historical baselines and improvement factors.

IIG exceptional events

3.140 The current threshold for IIG Exceptional Event[22] submissions is where the cost of doing so (for the TO) is likely to exceed the value of the volume of leakage (calculated using the central non-traded price per tonne of CO_2e as set out in the Green Book Supplementary Guidance).

3.141 We believe this threshold is too small, as evidenced by the SHET Blackhillock submission in November 2024 of 6.115 kg SF6.[23] This leak amounts to 6.1% of SHET's 2023/24 annual IIG emissions. Extrapolated to other TOs with higher IIG emissions, we consider this evidences a risk of relatively very small submissions and resultant unnecessary regulatory burden.

3.142 We propose that an annual level of 5% of the previous regulatory years IIG emissions would be more appropriate, as it ensures proposals are more

[22] The IIG Exceptional Event mechanism allows for emissions to be excluded from consideration of the IIG incentive performance calculation following submission by the TO and review by the Authority of any exceptional event claim.
[23] Consultation on minded-to decision for an Insulation and Interruption Gas Exceptional Event Claim for Scottish and Southern Electricity Networks (SSEN) at Blackhillock.

proportional to the event's impact on the incentive and remains constant to all TO's given the large range in annual emissions.

Historical IIG inventory

3.143 In RIIO-ET3 the amount of non-SF6 IIG alternatives planned to be added to the network has increased significantly compared to RIIO-ET2, meaning the rate of SF6 assets being retro-filled or removed is also set to increase.

3.144 During the business plan review process, some TOs highlighted that they have identified some data discrepancies regarding the SF6 inventory figures of older assets. For example, an asset may be registered as having a higher amount of SF6 than it was actually installed with, meaning once removed it indicates there was a leak when there may not have been one. The TOs state that this may distort performance figures in the IIG incentive and encourage unintended behaviours if not accounted for (ie TOs may be inadvertently incentivised not to remove SF6).

3.145 The TOs have not been able to demonstrate how many assets this issue effects, or the significance of the data discrepancies. Our expectation is that this issue could have been identified previously given asset service history logs. In the absence of firm evidence of the scale of the issue, we consider that the IIG Exceptional Event mechanism may be an option for managing the issue in RIIO-ET3. However, we expect more evidence to demonstrate the portfolio of impacted assets and why this issue has not previously been identified.

3.146 Once more robust evidence is available, we may consider it appropriate to adjust IIG Methodology Statements to account for the issue. For example, one option considered is whether emissions indicated from removal/replacement of SF6 assets of a certain age (ie pre-RIIO-ET1) should be excluded from incentive emissions calculations.

Questions

ETQ12.	What are your views on our consultation position for the IIG ODI-F target methodology in RIIO-ET3, in particular the bespoke treatment of SHET?
ETQ13.	Do you consider that we should use the IIG Exceptional Event mechanism to manage potential issues with historical IIG inventory data? If so, why?

SF6 Asset Intervention PCD

Purpose: To fund intervention programmes for assets containing SF6, reducing network emissions of SF6 over RIIO-ET3 and beyond, and contributing toward the achievement of TO emissions targets.

Benefits: Reduction in the volume of leakage of GHG emissions from NGET's and SHET's networks.

Background

3.147 In RIIO-ET2, NGET has a bespoke SF6 Asset Intervention PCD. A re-opener is attached to the PCD due to output uncertainty at the time of RIIO-ET2 Final Determinations. In our SSMD we stated that we are open to retaining this evaluative PCD, or a PCD of broadly equivalent design and intent, and to expanding it to all TOs dependent on business plan submissions.

3.148 We received funding requests from all the TOs to reduce IIG emissions in RIIO-ET3, as discussed in paragraphs 3.88-3.92. As part of their business plans, NGET and SHET proposed associated PCDs.

3.149 For our consultation position on the IIG emissions ODI-F, see the section above.

Summary of consultation position

PCD type: Evaluative.

Applies to: NGET and SHET.

Output to be delivered: Interventions for assets containing SF6 to reduce/abate leakage.

Baseline cost allowance: NGET £132.57m; SHET £11.89m.

Delivery date: Programme completion by 30 March 2031, site specific work delivery dates.

Applies to

3.150 In line with the business plans submissions received, we propose to expand the SF6 Asset Intervention PCD in RIIO-ET3 to include both NGET and SHET.

3.151 We recognise that the SHET proposal does not meet the £15m PCD materiality threshold set out in our SSMD. However, given that SHET has requested a PCD in this area we consider it prudent to provide the extra layer of consumer protection afforded by the PCD.

3.152 SPT also requested funding to deliver its IIG strategy, which we propose to fund as part of baseline allowances without a PCD attached (as discussed in 3.88-3.94).

Output to be delivered

NGET

3.153 NGET target 50% reduction in SF6 emissions by 2030 from a 2018/19 baseline, in direct correlation with its overall SBTi BCF target. Respective of its significantly higher SF6 emissions and inventory compared to other TOs, NGET is expected to require significantly more funding to reduce its emissions at the required rate to achieve its BCF SBT (as in RIIO-ET2). To achieve this, the outputs NGET proposed are:

- abatement of an estimated 7,576kg of forecasted SF6 emissions during RIIO-ET3, and 82,425kg by 2050;
- removal of an estimated 40,354kg of SF6 (ie 4% inventory reduction based on 2023/24 IIG inventory figures);
- asset interventions including substation interventions, palliative coating, and retro-filling (£100.6m baseline and £11.69m pipeline);
- establishment of gas density monitoring at 53 substations and enhancement to SF6 emission forecasting data on assets utilising enhanced gas density monitoring data (£34.1m baseline); and
- SF6-free IIG adaptation and management (£4.67m baseline).

3.154 There is also £20.9m worth of RIIO-ET2 investment to be brought into RIIO-ET3 across seven substations. Given the scope of work and delivery challenges experienced in RIIO-ET2, we believe this further supports the continuation of this PCD to protect consumer from any risk of non-delivery.

3.155 We propose to include all NGET's output requests in the SF6 Asset Intervention PCD, with any modifications to requested funding reflective of unit cost modelling through the Project Assessment Model (PAM) and the application of ongoing efficiency.

SHET

3.156 SHET indicated a cost of £93.66m to deliver its IIG Strategy in its EAP, contributing toward the target of 46% reduction in Scope 1 and 2 emissions by 2029/30 from a 2018/19 baseline. The outputs SHET proposed are:

- abatement of 432.8kg emissions from 13,236kg of SF6 Gas Insulated Switchgear (GIS) refurbishment - including protective coating application at 6 substations and refurbishment/replacement works across two substations (£13.85m); and

- abatement of 446.4kg emissions from SF6 equipment removal or replacement, typically with non-SF6, across 7 sites (£79.81m).

3.157 As demonstrated, the majority of SHET's funding request is for SF6 equipment removal and replacement. Although emissions reduction is a benefit of these works, the primary driver of investment is not emissions reduction, and so not directly comparable to the costs included in NGET's and SPT's EAPs. See the Circuit Breaker PCDM section and Appendix 1 of the SHET Annex for our consultation position on these proposals.

3.158 We propose to accept all SHET's proposals regarding SF6 GIS Refurbishments and include all outputs within the SF6 Asset Intervention PCD. The funding level modifications are reflective of unit cost modelling through the PAM and the application of ongoing efficiency.

3.159 SHET's funding request is much smaller than NGET's and has a lower cost efficiency of SF6 abatement. This is in line with our expectations, given SHET's significantly smaller SF6 emissions and inventory, and resultant smaller margin for improvement. As discussed in 3.86, although SHET does not forecast to achieve its BCF SBT as a result of these works, it has demonstrated the inefficient value of further asset interventions in RIIO-ET3 given the low leakage rates of remaining assets.

ETQ14.	What are your views on our consultation position for the SF6 Asset Intervention PCD in RIIO-ET3?

Secure and resilient supplies

Energy Not Supplied (ENS) ODI-F

Purpose: To encourage TOs to improve network reliability in an efficient way by managing short-term operational risk.

Benefits: Improving the reliability of electricity supply and reducing the negative impacts of disruption on customers.

Background

3.160 In our SSMD we decided to retain the Energy Not Supplied (ENS) ODI-F for RIIO-ET3.

3.161 The incentive works by setting a target level of performance for the TOs based on the volume of ENS, with rewards for performance below the target and penalties for performance above the target.

3.162 We are working with industry to establish an updated Value of Lost Load (VoLL)[24] to feed into this incentive and the ED3 price control currently in development.[25] We consider this to be crucial, as an updated figure will more accurately reflect the public's need for a reliable and secure energy network.

3.163 We are expecting a final report and recommendation from the Energy Networks Association (ENA) in October 2025, which will include a new VoLL figure which we will use in our Final Determinations.

Consultation Position and Rationale

Summary of consultation position

ODI type: Financial - penalty and reward.

Measurement: ENS volume, measured in MWh, set individually for each TO.

Target setting methodology: Either lower targets in line with recent historic performance levels or a reduction from RIIO-ET2 targets by recent historic performance levels.

Target: Set individually for each network, see below for possible options.

Incentive exposure: Penalty collar -0.38% RoRE (annual), a natural reward cap depending on the maximum potential performance against each TO's target.

Incentive value: For performance below the target, the difference between the actual performance of ENS and the TO's target is multiplied by the VoLL, and then by the Totex Incentive Mechanism Rate (TIMR). For performance above the target, the same process applies to determine the size of the penalty, although a collar is in place.

Definition of Excluded and Exceptional Events: No change from RIIO-ET2.

Individual Circuit Availability: We continue to work with NESO to explore how best to incentivise secure and resilient supplies of electricity in future price controls. One way in which we envisage this happening is by monitoring individual circuit availability.

Applied to: All TOs.

Measurement

3.164 Each TO will have its own target which will provide it with an incentive-neutral point for each of the five years of RIIO-ET3. This acknowledges the different nature of each TO network. Performance below this target will result in a reward, and performance above this target will result in a penalty.

[24] VoLL reflects the value that consumers place on the reliability of electricity supply.
[25] ED3 will be our next iteration of price controls for the ED network, starting in April 2028.

Target setting methodology:

3.165 Our intention is to continue the RIIO-ET2 approach of using a common target setting methodology across the TOs. We are consulting on two different target setting methodologies, with each aiming to achieve the same goal of registering as few outages as possible and encouraging TOs to react quickly when outages do occur.

Methodology 1

3.166 The first option would be to broadly continue the RIIO-ET2 approach which strengthened targets in line with performance. To get to a target ENS level, we would take the TO's average ENS levels from RIIO-ET1 and the first three years of RIIO-ET2 and then create an average between these two figures.

3.167 This would result in RIIO-ET3 targets that are most in line with recent performance, with Transmission Price Control Review 4 (which ran from 2007 to 2013) data no longer being considered, and each year of RIIO-ET2 providing 17% of the background data, compared to 10% for each year of RIIO-ET1.

3.168 However, this option then may lead to an increased likelihood that TOs be penalised as sustaining current levels of performance may be challenging given expected strain on the network as it expands. The opportunity for reward through improved performance could also be limited, especially for the already better performing companies.

3.169 A notable feature of this approach is that companies which have historically performed well and have worked to maintain a reliable network to the betterment of consumers, will now have their ability to receive financial rewards for comparable performance to RIIO-ET2 reduced.

Methodology 2

3.170 Methodology 2 creates target levels for RIIO-ET3 by deducting average performance across RIIO-ET1 and RIIO-ET2, as determined in Methodology 1, from the targets established for RIIO-ET2. This will result in a slight reduction of the TOs' target, meaning less scope for performance to lead to rewards, but reflects the reliability improvements achieved during RIIO-ET2.

3.171 We anticipate a tough landscape for TOs to maintain current reliability levels because of increasing demands on their networks. This slight reduction acknowledges this challenge. However, if this environment does not materialise, TOs would earn rewards without needing to improve performance.

Preferred methodology

3.172 Our favoured option is Methodology 2. This is because it produces a slight stretching of targets, hopefully resulting in a continued drive for improved performance. It will also produce a comparable potential incentive value for the TOs to RIIO-ET2, once the new TIMR and VoLL figures are established.

3.173 Methodology 1 remains an open proposition for us if the VoLL figure, that is currently unknown, comes out at a level far above its existing level of £21,008 per MWh. A much higher VoLL would still allow us to proportionally reward or penalise TOs if we used the smaller rewarding scope between target and actual MWh lost that Methodology 1 would allow.

Target

3.174 Using the above methodologies and historical data, we have created two sets of targets for total MWh of ENS per year:

- Methodology 1: NGET 22 MWh per year; SPT 25 MWh per year; SHET 12 MWh per year.
- Methodology 2: NGET 125 MWh per year; SPT 105 MWh per year; SHET 90 MWh per year.

Incentive Value

3.175 We propose to retain the incentive value calculation for RIIO-ET3, albeit with updated targets and the price control-wide change from using ex ante base revenue to using RoRE.

Definition of Excluded and Exceptional Events

3.176 In RIIO-ET2, the TOs can apply to us when they consider that an Excluded or Exceptional Event has occurred. If we agree, they are permitted to exclude the MWh which was lost as a result of those events from their loss of supply totals that we use in calculating the incentive's rewards or penalties.

3.177 We do not consider that there needs to be a change from the existing definitions used in RIIO-ET2 for Excluded or Exceptional events, as listed in each TO's licence. This is due to their already far-reaching remit, which we believe remains sufficient.

Materiality threshold

3.178 Since our SSMD, we have considered the implementation of a materiality threshold on the size of Excluded and Exceptional Events claims that could be submitted for exclusion by TOs.

3.179 This would have been to ease administrative efforts by not allowing TOs to exclude claims where the cost of reviewing and administering the claim would outweigh the cost of the claim itself.

3.180 After further consideration, we consider it to be appropriate for TOs to continue to be able to exclude these types of claims. This is because allowing the exclusion of these events will give a more accurate reflection of how a TO has performed. Therefore, we consider a materiality threshold would not be appropriate and will not be proposing to change the administrative process of claiming against excluded or exceptional events.

Incentive exposure

3.181 The incentive has a natural cap when the TOs record 0 MWh of energy not supplied, creating a maximum performance level for each TO.

3.182 Whatever option we progress with, we consider that an underperformance collar will need to be implemented. As in RIIO-ET2, this will be an important safeguard for consumers because if we do not do this the TOs may incorporate additional and unnecessary redundancy into their networks to avoid the consequences of a penalty, no matter the actual likelihood of a loss of connection.

3.183 Accordingly, we propose that there will be a collar for each TO to sit at 0.38% of RoRE. This is a like-for-like collar to that applied in RIIO-ET2, albeit with the change from ex ante base revenue to RoRE. We consider this to have acted as a suitable collar through RIIO-ET2.

Individual circuit availability

3.184 Further to our position in SSMD, we remain open to looking at alternative metrics for measuring reliability of the ET network for RIIO-ET4. This may be to incentivise individual circuit availability, which we consider could allow us to better assess the network's reliability and risks, ensuring it serves both current and future consumers effectively.

3.185 We will continue our conversations with NESO, working to gather data to best inform our direction for RIIO-ET4.

Questions

ETQ15.	What are your views on our proposals for the RIIO-ET3 ENS ODI-F, including the two different target setting methodologies we have shared?

High quality of service from regulated firms

SO:TO ODI-F

Purpose: To encourage the TOs to proactively identify and provide enhanced services to the NESO to reduce the cost of operating the transmission system.

Benefits: Reducing constraint costs across the transmission network.

Background

3.186 In our SSMD we decided to retain the SO:TO incentive and we set out our intention to tighten the definition of what enhanced services can be rewarded under it through STCP11-4,[26] and how enhanced services will transition to BAU as they become low risk in nature.

3.187 We received one stakeholder response relating to SO:TO in our Call for Evidence in favour of the SO:TO incentive and the value it can offer consumers in reducing constraint costs.

Consultation position and rationale

Summary of consultation position

ODI Type: Financial - reward only.

Measurement and incentive value: The reward is calculated using a 50:50 weighting on forecast and outturn constraint costs savings with a 90:10 sharing factor weighted in favour of the consumer.

Reporting: At present NESO compiles a report on the enhanced services requested and proposed, and the financial benefit garnered by the ODI-F, on a yearly basis.

Scope: Applicable STCP11-4 enhanced services.

Applied to: All TOs.

Transitioning to BAU: We will implement a new eligibility criteria to determine whether the enhanced services qualify for the incentive benefit or should be undertaken as a BAU activity.

Transitioning services to BAU

3.188 We propose to introduce eligibility criteria to determine whether an enhanced service as described in STCP11-4 is eligible for a reward or has transitioned to BAU. This is because this will differentiate when an enhanced service carries risk, when the enhanced service is innovative, when the service does not go above and beyond the TOs existing obligations, and when it carries genuine consumer value.

[26] The System Operator Transmission Owner Code (STC) is a suite of code documents that define the relationship between the TOs and the NESO. The STCP11-4 procedure is one of the STC documents and was designed to enable the NESO to buy services from the TOs that help to reduce the costs of operating the GB transmission system.

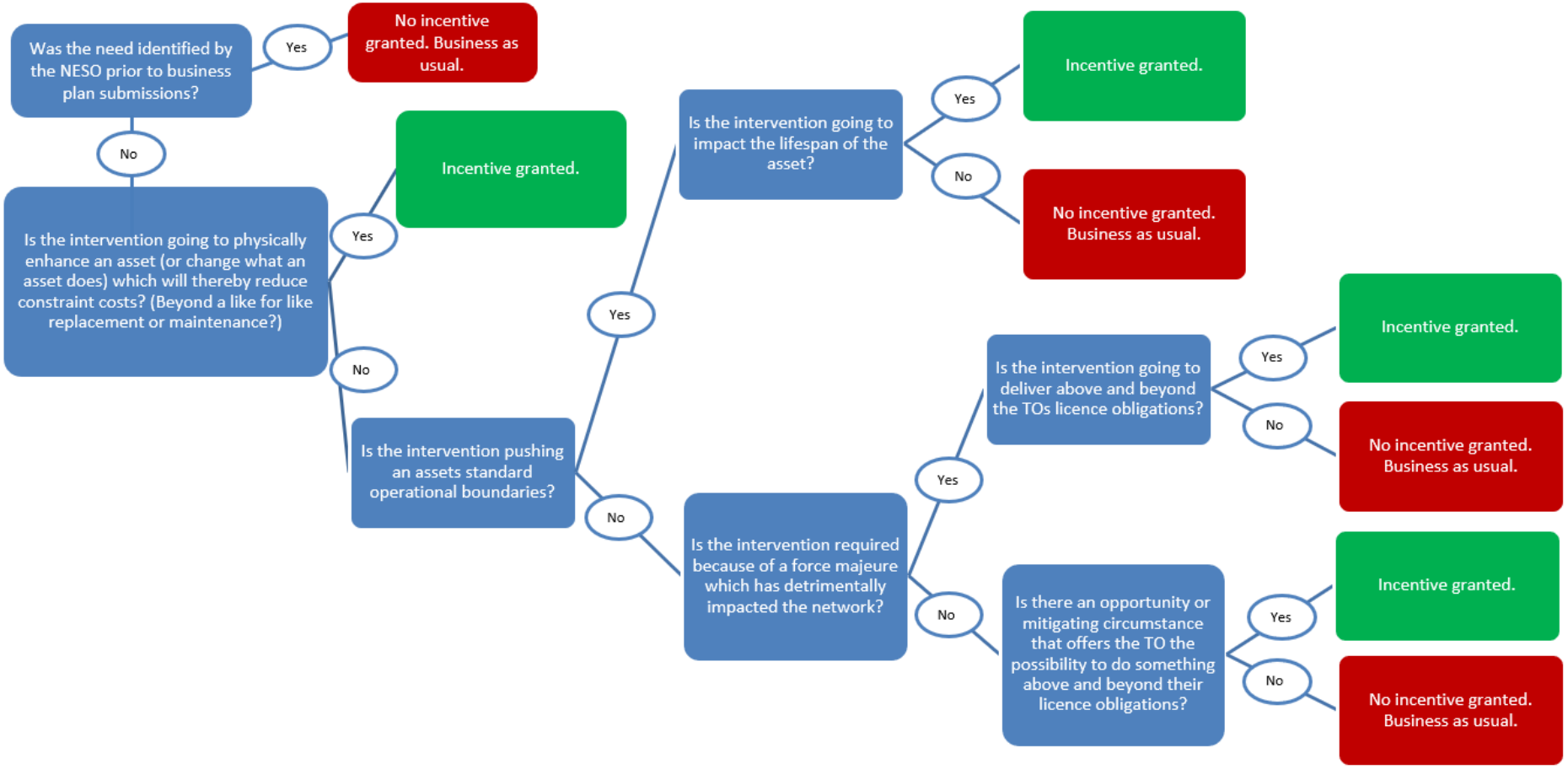
3.189 In the SSMD, we discussed creating a glide path to BAU, given that while the action may continue to deliver the equivalent level of benefit over time, the level of risk/innovation required from the TO may significantly reduce. However, given the varied nature and location of interventions covered by this incentive we have been unable to develop a robust threshold at which something would transition to BAU which could be applied across the SO:TO ODI-F.

3.190 We have developed our proposed eligibility criteria as an alternative method of determining BAU. This includes new terminology specific to the incentive:

- Asset enhancement: Where the TO upgrades or adds something to an asset beyond its current operating mode.
- Pushing operational boundaries: Where the TO uses or puts an asset in a position that is beyond its recommended standardised operating procedures.
- Force Majeure: An extraordinary event beyond the control of the TO that impacts the network.

3.191 Our proposed SO:TO eligibility criteria are shown in Figure 3.

Figure 3: Proposed SO:TO eligibility criteria



Requests not met

3.192 It is in the interests of consumers for TOs to work constructively with the NESO to reduce constraint costs.

3.193 The NESO has informed us that several requests they have made for enhanced services from the TOs have been declined. The TOs should not be declining the opportunity to provide enhanced services where it is within their remit.

3.194 As such, we propose to introduce a clawback mechanism within the SO:TO ODI-F that will penalise TOs for failing to fulfil the requests for enhanced services the NESO makes under STCP 11-4.

3.195 The clawback mechanism would enable us to penalise TOs for the number of enhanced services that each failed to provide to the NESO. The level of clawback applied would take into consideration the extent of the financial reward given to the TO through the SO:TO ODI-F during RIIO-ET3 and the potential costs borne by consumers for the failure to provide the enhanced service.

3.196 We propose to work further with the NESO and the TOs on the detailed design of clawback mechanism ahead of our Final Determinations.

Enhanced services superseded by technological advancements

3.197 At present there is a disparity between the types of enhanced services that the TOs are providing to the NESO.

3.198 Some enhanced services offered by the TOs provide an innovative technological enduring benefit to the whole system; whilst others fire-fight an immediate localised problem and have little long-term impact to the network.

3.199 We believe the TOs should be aligned in the enhanced services they provide. If one TO is utilising an innovative enhanced service that negates the need for repeated interventions, then we expect the other TOs to utilise similar technological advancements where possible should they seek to benefit under the SO:TO ODI-F in future.

3.200 For example, we would like to see wider implementation of Dynamic Line Rating (DLR). DLR is a technology that adjusts the maximum current a power line can carry based on real-time environmental conditions, such as temperature, wind speed and solar radiation. Unlike static line ratings, which are based on conservative assumptions of worst-case scenarios, DLR dynamically adjusts the thermal capacity of the line to optimize power transmission. This allows for more efficient use of existing transmission infrastructure (including reducing

constraint costs), particularly during periods when environmental conditions are favourable.

3.201 We would like to encourage the use of more DLR on the network in RIIO-ET3 as we see significant benefits in this technology being available on a larger scale.

3.202 TOs have approached this in different ways during RIIO-ET2. NGET has been rolling out DLR on a site-specific basis and has been rewarded for doing so through the existing ODI-F. The Scottish TOs have been deploying equivalent technologies via upfront funding in their price control settlement. For example, SPT has introduced the near-time Predictive Analytics for Energy (PRAE) forecasting platform which gives demand and generation forecasts up to four days in advance. The introduction of this innovative platform negates the need for other repetitive dynamic weather-based enhanced services on its network thus improving its DLR activity overall, and ultimately saving on constraint costs and benefitting the consumer. We view SPT's solution as far more effective than taking a piece-meal approach currently used by the other TOs as it requires fewer enhanced services being implemented at a reduced cost to the consumer.

3.203 The different approaches are reflected in RIIO-ET3 business plans where NGET has not sought upfront funding for DLR while SPT and SHET have.

3.204 While each approach has the potential to deliver benefits, we are keen to ensure fairness across TOs, so that TOs that are funded to deliver DLR-type outcomes are no worse off than those which instead seek to achieve rewards through the ODI-F. We also want the arrangements that, where possible, give greater encouragement to the deployment of enduring rather than piece-meal solutions.

3.205 To resolve this, we are consulting on three options, which aren't necessarily mutually exclusive, and welcome views from stakeholders on a preference:

- Option 1: A lower incentive rate reward (eg 95:5) for enhanced services that consider the network on a piece-meal basis with the 90:10 sharing factor being retained only for incentives that are deployed on more of a system-wide basis. This option would ensure that the TOs are still rewarded for being flexible and responsive to unforeseen circumstances on the network, while tempering that reward depending on whether the enhanced services offer long-term substantiative benefits to the system - incorporating strategic planning into the innovation to create long-term reductions in constraint costs. We envisage this option would encourage a more proactive planning approach to reducing constraint costs system wide.

- Option 2: Offering a RIIO-ET3 BPI reward for TOs that have proactively planned whole system enhanced services in their business plans. While this option would reward the proactive steps taken by some TOs to incorporate means of reducing constraint costs into their network, the likelihood is that the BPI reward would be far lower than the potential reward that could be gained through the SO:TO ODI-F.
- Option 3: Enhanced services that are superseded by the technological advancements of other enhanced services will not be eligible for the incentive benefit the SO:TO ODI offers in RIIO-ET3. If other TOs adopted the same or an equivalent platform they would similarly be eligible for a reward under the incentive. This option would rank the enhanced services according to the technological preference that most benefits the consumer and its impact on the whole system. If an enhanced service offered by one TO uses more advanced technology for a longer-term benefit on the network and there are no restrictions to it being instigated by any of the TOs then this would mean other enhanced services for the same result would be disallowed access to the incentive.

3.206 We consider that it is important all consumers across the GB network benefit equally from innovative solutions. The TOs must be encouraged to utilise innovative solutions which make other repetitive enhanced services redundant.

Length of enhanced services

3.207 The NESO has flagged that some enhanced services are being extended beyond the agreed dates when the STCP11-4s are submitted. This means that the benefit the TO is receiving through the ODI is extending with it.

3.208 For example, an enhanced service by-pass circuit was supposed to be temporarily configured for one year. However, due to project delays this configuration still stands and will remain for a total of three years. This has exacerbated wider network constraints, but under the current system it is not clear whether it should be rewarded under this incentive or not. Under the current STCP11-4 enhanced services are originally submitted with an exact date. However, the NESO has found that those dates often change significantly due to project delays. The outages will often get extended after the TOs have started work on site, so the dates will then change again after the revised STCP11-4 has been agreed (either by days or a few weeks).

3.209 We consider that the NESO should have enhanced power to review STCP11-4s and determine whether changes such as these should effect the ODI reward. We welcome stakeholder views on this.

3.210 We will work with the NESO and the TOs to discuss how the dates set when STC11-4s are submitted are calculated, tracked and if necessary, changed. Further investigation is needed to understand the scale of the issue.

Implications on the Network Access Plan (NAP) and STCP 11-4

3.211 We propose that there is no need to alter the Network Access Plan (NAP) or STCP 11-4 to include any commentary on or refer to the SO:TO ODI-F as we believe the ODI-F already works coherently with both documents.

Questions

ETQ16.	What are your views on our consultation position for the SO:TO incentive approach to BAU enhanced services in ET3?
ETQ17.	Do you agree with our proposal to introduce a clawback mechanism in the SO:TO ODI-F for enhanced services requested that are unfulfilled?
ETQ18.	Which of the three options for managing differing approaches between TOs do you think would work most effectively in the SO:TO ODI-F?

Innovative Delivery Incentive

Purpose: To improve TO approaches to the delivery of network investments in a way that speeds up delivery and provides value to consumers.

Benefits: Faster, better value and/or more innovative TO approaches to network investment.

Background

3.212 As discussed throughout this document, RIIO-ET3 will see TOs deliver huge volumes of network investment not seen since the network was first constructed. Alongside the strategic plans of investment to ensure the transmission networks can connect and accommodate new generation, the growth in demand from data centres and new housing is increasing the urgency for a strategic approach to planning and developing the networks to meet demand.

3.213 In SSMD we committed to, and in this document we are consulting on, introducing various incentives to reward TOs for timely delivery of projects, and penalise them for late delivery. However, these focus on the delivery dates themselves, rather than necessarily the behaviours that may affect how those dates (and project costs) are set in the first place. NGET highlighted this potential gap in the price control in its Business Plan.

Consultation position and rationale

Summary of consultation position

ODI Type: Financial - reward only.

Scope: Demonstrable significant consumer value provided in relation to five TO behaviour areas in the delivery of RIIO-ET3 outputs:

1) Savings in supply chain/contracting;

2) Innovations in design/engineering;

3) Speeding up delivery;

4) Collaboration with the NESO on strategic planning and outages; and

5) Rollout of NIC/NIA/SIF innovations.

Measurement: A 2028/29 and a 2031/32 Ofgem-led panel assessment of TO submissions to justify rewards in relation to the four behaviour areas within scope.

Incentive value: To be determined, but we are consulting on an indicative maximum reward range of 50-100bps of RoRE.

Applied to: all TOs.

Why is incentivising innovative approaches to delivery necessary?

3.214 In ET costs are generally set on a 'late ex ante' basis – ie when costs have been market tested so that we and TOs have a reasonable degree of cost certainty. This is right for consumers given the high and often asymmetric cost/delivery risks (eg supply chain, planning) which would otherwise mean very high risk premia being applied to ensure the framework remains investable.

3.215 However, this reduces reward for innovation earlier on in the project cycle before costs have been set because any benefits a TO creates in innovating in design and delivery plans are 'baked into' cost allowances, reducing the positive incentive to go the extra mile early on. This therefore blunts the full extent of the totex incentive on TOs to identify new and different opportunities for efficiency.

3.216 As discussed in the Overview Document, we've also observed a lack of rollout of consumer funded innovations. This may be because companies perceive that new technologies, even when proven, introduce risks which they're not paid to take.

3.217 Given our observations above, we consider that there may be a gap in the price control on this, and with the volume and importance of work expected in RIIO-

ET3, a financial incentive to encourage improved TO behaviour (especially early in the project development cycle) could, calibrated incorrectly, yield consumer benefits.

3.218 We are only exploring this for ET as we consider that the scale of new network investment required, and the additional work that this will create, means that there could be material consumer value derived from driving fundamental changes in TO behaviour. As the gas networks are not experiencing the same level of growth as the TOs, we consider that the scale of such consumer benefits in the gas sectors would be too small to justify interventions there. For ED and GD, the volume of benchmarkable data also means we are less reliant on company forecasts for individual schemes as the basis for setting allowances than we are at ET.

Scope

3.219 We have identified the following five behaviours as areas where we consider that driving changes in how TOs operate could yield consumer value:

- **Savings in supply chain/contracting** - TO demonstrates that the approach to contracting has delivered significant cost efficiencies relative to historical counterfactuals, eg on risk apportionment, bulk purchase etc, resulting in lower consumer costs.
- **Innovations in design/engineering** - TO demonstrates that innovative design choices have delivered consumer value over and above what would normally be expected, eg use of new technologies that reduce cost or engineering approaches that achieve long-term value.
- **Speeding up delivery** - TO demonstrates that specific early-stage interventions undertaken by the company have accelerated the TDD for the project, sped up delivery on a project, and/or recovered time lost from a delay beyond a TO's control.
- **Collaboration with the NESO on strategic planning and outages** - TO demonstrates that the way that it has collaborated with the NESO on areas such as the CSNP (or other strategic demand plans) or outage planning has delivered material value to consumers, eg going over and above the expectations on TOs established through our proposed CSNP Co-ordination LO or improved optimisation of outage planning.
- **Rollout of NIC/NIA/SIF innovations** - TO demonstrates that the rollout of innovations funded by our innovation mechanisms have delivered consumer value and were undertaken 'at risk' by the company.

3.220 In relation to all of the areas above we propose that we would only consider offering rewards where we are confident that:

- rewards or funding haven't been provided elsewhere in the price control for the same behaviour (eg through a delivery incentive or innovation rollout funding mechanism); and
- the consumer benefit delivered by the behaviour passes a materiality threshold - for which we propose a minimum of £10m of consumer benefit.

3.221 In addition to the direct consumer value that we expect these behaviours could achieve, we also consider that encouraging the TOs to report transparently on the consumer value provided by these behaviours (and how they were achieved) may provide us with information about how TOs operate that enables us to regulate more effectively in the future.

Measuring success

3.222 We have considered three options for how this incentive could be set up:

- **Industry survey** - We design a survey that is sent to industry stakeholders to assess TO behaviours against pre-agreed guidance.
- **Quantitative ODI-F with ex ante metrics and targets** - We identify and calibrate fixed metrics against which pre-agreed rewards are granted.
- **Ofgem-led panel** - We establish a panel led by us with industry input which assesses TO behaviours at fixed intervals against pre-agreed guidance.

3.223 We are not progressing the industry survey option because we consider that it would be very challenging to develop a list of survey questions and survey recipients which could fully and robustly capture all of the behaviours that we have identified as delivering consumer value. Surveys could however form part of the evidence considered under the Ofgem-led panel option.

3.224 Similarly we see that there would be significant challenges with developing a robust quantitative ODI-F with ex ante metrics and targets. A lot of the behaviours that we are looking to drive are in areas where we know that we already face an information asymmetry challenge, which would make setting robust targets that were sufficiently stretching for the TOs very difficult. We also know that assessing some of the behaviours we're looking to achieve will require a degree of subjectivity and may not lend themselves to quantification through ex ante metrics.

3.225 For these reasons, we propose that TO submissions under this incentive should be assessed by a panel which informs an Ofgem decision. This panel would be able to consider evidence provided by the TOs in the round.

3.226 We expect that the panel members would need to be independent of the TOs, and expert in the fields of network regulation, electricity networks and/or large infrastructure delivery. The panel would not need to be appointed until closer to the time of the first assessment in 2029, but we propose that it should be formed of one Ofgem director (likely the Director for Price Controls or equivalent), one NESO employee of a similar seniority, and one independent expert. We consider that this would provide an appropriate balance of expertise.

3.227 If this proposal is taken forward we would provide the TOs with our assessment criteria, based on the position reached in our Final Determinations, during year one of RIIO-ET3.

Incentive value

3.228 If this incentive is established as a panel-based ODI-F, we propose that it should be reward-only, ie the panel would not be able to impose penalties. This is because panel assessments involve a degree of subjectivity and some of the desired behaviours are in areas where it may be challenging to set out detail of the level of outstanding behaviour that should be expected as warranting a reward in advance. Furthermore, we consider that the other incentives we are proposing for RIIO-ET3, and the LOs that we will place on project delivery, already provide us with sufficient tools to financially penalise TOs if they delay delivery of critical national infrastructure.

3.229 Given the scale of allowances likely to flow through RIIO-ET3, and the rewards already available under the ASTI delivery incentive and our proposed CSNP-F delivery incentive, we do not expect that a low materiality reward under this incentive would achieve the desired behavioural changes.

3.230 We consider that to be effective the potential reward that could be achieved under this incentive would need to be of a sufficient materiality to drive fundamental change in how the TOs operate. We welcome stakeholder views on this area and consider that potential rewards of 50-100bps of RoRE may be sufficient to drive the change, and achieve the significant consumer value, that we want to see.

Questions

ETQ19.	Do you agree with the need to introduce an Innovative Delivery Incentive to drive the five behaviours that we've identified and do you consider that there are any behaviours that are missing?
ETQ20.	What are your views on our proposed design of the Innovative Delivery Incentive?
ETQ21.	What are your views on how TOs could demonstrate 'consumer value' to justify rewards under the Innovative Delivery Incentive?

CSNP Co-ordination LO

Purpose: To hold licensees to account for effective collaboration with the NESO in support of the development of the CSNP.

Benefits: Ensures effective and timely collaboration between TOs and the NESO that will result in timely delivery of the CSNP and will ensure the CSNP is of high quality.

Background

3.231 The NESO is expected to produce the first CSNP in 2027. As set out in our SSMD, effective network planning is dependent on positive collaboration between the TOs and NESO to enable NESO to undertake power systems analysis, optioneering and other activities to produce a robust CSNP and to allow us to determine funding in RIIO-ET3.

3.232 Effective collaboration may include but is not limited to:

- TOs providing detailed insights into their proposed options, assets, costs, and constraints, for NESO to plan effectively;
- TOs working with NESO to identify potential issues and work together to find solutions, through a collaborative approach considering alternative options, including those developed by NESO; and
- using the shared data platforms to provide the latest asset information including on any planned programme of works and asset reservation or allocations, improving the accuracy and reliability of planning and decision-making.

Consultation position and rationale

Summary of consultation position

Scope: LO on TOs to ensure effective collaboration with the NESO in the development of the CSNP.

Measurement: NESO to periodically report to us the quality and timeliness of data submissions that are required for the development of the CSNP and associated iterations.

Applied to: All TOs.

Rationale

3.233 In recent years we have observed incidents where provision of information from TOs to the NESO for the purpose of network planning was either not timely or not to the level of detail required by the NESO, or both. This resulted in reduced confidence in then NESO's strategic network plans. In some cases, projects that were already approved as part of network planning went through significant changes which required additional resource and time for all parties (ie us, NESO and TOs).

3.234 Historically, NESO network planning served to identify the load-related drivers for projects, which were subsequently subjected to a regulatory needs case assessment on an individual project basis. The CSNP is designed to provide high confidence in the projects it identifies as needed, and funding will rely significantly on the outcome.

3.235 Current licence conditions do not put clear and specific obligations on TOs to share information with NESO as set out in the STC and STC Procedures (STCPs). We believe the lack of specificity and clarity creates risks on the delivery of the CSNP. Failing to resolve this issue may result in:

- Delay to CSNP publication: if NESO does not receive reinforcement options from TOs or the data it requires to deliver the CSNP in time and to a sufficient level of quality, there is a risk that NESO will take longer to produce and publish the plan because the overall process takes longer, or because of poor quality options, TOs and NESO are required to undertake additional work resulting in delays. This can in turn delay or fail to meet strategic plans such as the Strategic Spatial Energy Plan (SSEP) and government's wider decarbonisation objectives, and result in increased constraint costs and reduced system reliability.

- Sub-optimal strategic planning outcomes: Effective cooperation is crucial for developing robust system models, project delivery dates, cost estimates and engineering designs that meet minimum requirements. Without it, economic assessments and other decision making assessment will be compromised, and designs might not be sufficiently detailed, potentially compromising the quality of the NESO's outputs.
- Delayed project funding: Projects that do not meet the required design standards may face delays in receiving PCF or full project funding, hindering timely project completion and resulting in reduced system reliability and increased constraint costs.
- While the LO would not introduce new roles or responsibilities - these are established through the methodology and the STCs - it would create accountability to adhere to them. Without such obligations being clearly embedded in the licence, there may be reduced clarity and enforceability regarding compliance with roles in network planning and development.

3.236 Our view is that without a specific LO on TOs relating to ensure the effective exchange of information for the CSNP, updating the codes alone will be ineffective in ensuring the needs of NESO are met.

3.237 Moreover, we are of the view that a LO will also incentivise TOs to work closely with NESO to update the respective codes that underpin exchange of information - improving overall interface and processes associated with exchange of information.

Licence Obligation

3.238 We propose to introduce a LO that sets a duty on the TOs to meet requirements on information exchange required by the NESO in its development of the CSNP, provided these are reasonable and agreed through appropriate consultation. The LO will set out the roles and responsibilities of the TO in supporting development of the CSNP, including in relation to timeliness and quality of information provision to the NESO.

3.239 Alongside the LO we propose to introduce a Governance or Guidance Document at, or close to the start of, RIIO-ET3 that will set out the additional detail on expectations placed upon the TO, building on the LO. It will avoid duplication with areas that are better addressed within industry codes, the CSNP Methodology or through defined processes between NESO and TOs. It will also set out:

- the role of the NESO in the monitoring and reporting of TO performance in relation to this LO to us;
- our responsibility in evaluating these reports and ensuring that all parties are complying with their obligations; and
- avenues for dispute resolution.

3.240 To ensure fairness and feasibility, the Governance/Guidance Document that accompanies the LO will not impose unreasonable or unachievable obligations on TOs. TOs will have the opportunity to input into these requirements, ensuring that both reflect obligations they are capable of meeting.

3.241 Enhanced reporting would provide greater transparency regarding TO performance, support regulatory scrutiny, and help ensure that TOs are held accountable for their contributions to system planning. This is particularly important to mitigate risks of consumer harm arising from inefficient coordination, delayed data provision, or misaligned planning assumptions.

NESO role

3.242 The NESO will have a role to play in informing us whether the obligations have been met.

3.243 We, the NESO and TOs will work together to develop an appropriate reporting tool. The proposed reporting requirements (as well as any dispute management) will be set out in the governance document

3.244 Reporting of data exchange between TOs and NESO may bring to light areas where data flow is consistently problematic or delayed. Identifying these areas that will enable a more targeted understanding of any potential issues within the CSNP process, and whether they stem from technical, procedural, or organisational issues. This will facilitate effective troubleshooting and iterative improvements to the CSNP process. Moreover, systematic reporting will foster a culture of accountability and continuous improvement for both TOs and NESO.

Interactions with Data Sharing Infrastructure

3.245 A Data Sharing Infrastructure (DSI)[27] is being developed between the NESO and TOs to facilitate the flow of sensitive but essential data between energy system participants (eg network operators, suppliers, regulators) in a secure and governed way.

[27] Governance of the Data Sharing Infrastructure | Ofgem

3.246 We believe the DSI will be a suitable vehicle for the exchange of data critical for the development of the CSNP, and space to determine data on use cases such as strategic planning. However, DSI does not negate the need for the LO because it will not set out how data exchange and collaboration needs to occur, or whether expectations of quality and timeliness have been met.

3.247 We expect requirements to evolve as the DSI and CSNP evolves over time. Future legal agreements and policies will evolve to clarify access rights and responsibilities.

Questions

ETQ22. Do you agree with our proposal to introduce the CSNP Co-ordination LO?

Landscape Enhancement Initiative (LEI) UIOLI allowance

Purpose: To fund landscape improvements relating to ET infrastructure mitigation.

Benefits: To make a positive contribution to wildlife, biodiversity, cultural heritage, the natural beauty, and public enjoyment of National Parks, National Scenic Areas and National Landscapes.

Background

3.248 In the SSMD we made the decision that we would not retain the Visual Amenity PCD or re-opener. We decided however to retain the Landscape Enhancement Initiative (LEI)[28] allowance to enable the TOs to undertake a variety of work on localised landscape improvements.

Consultation position and rationale

Summary of consultation position

Allowances:

NGET - £11.6m

SHET - £11.6m

SPT - £6.6m

Scope: Localised landscape improvements relating to ET infrastructure mitigation in National Scenic Areas, National Parks and National Landscapes.

[28] The LEI was known as the Non-Technical Mitigation Project (NTMP) allowance in RIIO-ET2. With the removal of the Visual Amenity PCD, we have renamed it to distinguish it from its former counterparts.

TO feedback

3.249 In bilateral discussions the TOs provided information on their assessment of the success and limitations of the LEI in RIIO-ET2 and what they envisage they would do with the fund in RIIO-ET3.

3.250 SPT's use of the UIOLI in RIIO-ET2 has been restricted because its operating area is not close to the relevant National Scenic Areas or National Parks of Scotland. As a result, they envisage their ability to utilise the fund in RIIO-ET3 will also be limited.

3.251 NGET sees a positive impact on local communities from the work it has instigated through the LEI and advocated to increase the size of the UIOLI to £15m in its Business Plan. NGET has also proposed other changes to the LEI that would impact the UIOLI for the remainder of RIIO-ET2 (as well as moving forward in RIIO-ET3). These proposed changes are an inflation-related increase to maximum funding per scheme to £300k per scheme, an opportunity for top-up funding for in-flight schemes, a reduction to the matched funding to 10% and a £10k development fund per scheme applicant. Our RIIO-ET2 team is currently assessing these proposals.

3.252 SHET is looking to create a community access fund structured similarly to the approach NGET takes for its LEI fund. SHET has not requested any alterations to the size of the LEI fund in RIIO-ET3.

Scope of the LEI

3.253 We propose to retain the current scope of the LEI as it is, encompassing only National Scenic Areas, National Parks, and National Landscapes, accepting that the work SPT could undertake will be limited.

3.254 Following the discussion with SPT we considered proposing to expand the scope of the LEI to include improving the biodiversity of rainforests, but we have elected not to do this. The rationale behind the expansion would have been to broaden the ability of the Scottish TOs to make full use of the allowance. Scotland's rainforest zone, and the work to be done on its biodiversity wellbeing, made it an attractive area for consideration. However, we recognise the impact that transmission infrastructure can have on the visual appearance of areas of particular natural beauty is a significant concern for local communities and users of those environments, and that expanding the scope to cover rainforests would potentially shift the LEI away from its core focus from infrastructure mitigation. Furthermore, if we were to add new landscapes such as rainforests to the LEI, the variety of metrics that we would need to both decide on as an evaluation

method and then require the TOs to report on could potentially be substantial and impact the overall outputs of the UIOLI.

Size of the LEI allowance

3.255 We propose to keep the LEI allowance at £11.6m for NGET and SHET, and to reduce the size of the LEI allowance by £5m for SPT to £6.6m.

3.256 In evaluating the options for setting the size of the LEI allowance for RIIO-ET3 we assessed that none of the TOs have utilised the full allowance offered in RIIO-ET2 and as such don't need an increase.

3.257 SPT has identified its potential inability to utilise the LEI in RIIO-ET3, which is why we have reduced the size of its available funding. However, we remain open to considering increasing the size of its allowance in future price controls should it be able to use it more effectively. The £5m adjustment has been made to reflect the bespoke Net Zero Fund UIOLI providing SPT with £5m to support vulnerable communities within its licence area in their transition towards net zero, which doesn't exist in NGET or SHET's licence areas. See the SPT Annex for more information on the Net Zero Fund UIOLI.

Data collection

3.258 We propose to set data collection requirements through the RRPs for the LEI in RIIO-ET3. These data requirements would include:

- the total amount spent for the preceding Regulatory Year;
- the Designated Area for each project;
- the amount of funding allocated to each project;
- any additional funding it expects to be allocated to each project;
- the benefits each project is seeking to achieve; and
- the expected beneficiaries of each project.

3.259 We consider that this will provide greater transparency on the work completed through the LEI UIOLI.

Questions

ETQ23.	What are your views on our consultation position for the LEI UIOLI in RIIO-ET3?

New Infrastructure Stakeholder Engagement Survey ODI-R

Purpose: To encourage TOs to survey stakeholders impacted by new transmission infrastructure.

Benefits: Increased stakeholder engagement and improved service.

Background

3.260 In our SSMD, we decided to retain this RIIO-ET2 ODI-R owing to the rapid expansion of new network build during RIIO-ET3 and the importance of ensuring that stakeholders have a voice during this expansion.

3.261 Feedback from our Call for Evidence suggests that stakeholders are dissatisfied with TO engagement on new transmission infrastructure. This New Infrastructure Stakeholder Engagement Survey (NISES) ODI-R is an opportunity to help improve this. We are consulting on strengthening this incentive to improve its clarity and visibility to stakeholders and enable them to compare companies' performance. This is through a new survey design and reporting format.

Consultation position and rationale

Summary of consultation position

ODI Type: Reputational

Survey scope and methodology: Introduce five core survey areas of engagement for stakeholders to rate and comment on their satisfaction.

Measurement: An overall score of engagement is created by averaging the scores from the five core survey areas.

Reporting: TOs publish an annual report of their stakeholder scores and strategy to improve. We will include results in our RIIO annual report.

Applied to: All TOs.

Survey scope and methodology

3.262 We propose to introduce a common survey design for TOs to use when surveying stakeholders' satisfaction with their engagement. We think that this is an improvement on the RIIO-ET2 approach of TOs designing their own surveys independently. This lacked consistency and comparability.

3.263 We propose that the survey should cover a broad range of stakeholders impacted by the construction of new transmission infrastructure including local residents, businesses and community groups. This is to ensure that TOs can understand and tailor their engagement to reflect the needs of different stakeholder groups.

3.264 We propose that there be five core stakeholder survey areas of engagement that we want to survey:

- promptness;
- frequency;
- methods;
- quality; and
- responsiveness to feedback.

3.265 Accompanying each of these areas, stakeholders can:

- rate their satisfaction on a scale of 1 (completely unsatisfied) to 10 (completely satisfied); and
- provide qualitative feedback on how the TO can improve.

3.266 A copy of the proposed survey is shown in Appendix 1.

Measurement

3.267 We propose that each core stakeholder survey area should be equally weighted when creating the overall engagement score per survey returned. This avoids overcomplicating the reputational output and provides greater transparency in the overall score.

3.268 All overall engagement scores per survey returned will be averaged to find the TO's score.

Reporting

3.269 We propose that each TO publishes a report on its website by 30 September each year (excluding year one of RIIO-ET3 and including year one of RIIO-ET4).

3.270 Each report should have two parts that are a maximum of one page each:

- Part one should show the TO's individual scores for each core stakeholder survey area, their overall score and number of stakeholders surveyed; and
- Part two should provide the TO's view on the survey results including, common themes from stakeholder feedback, efforts it has taken to give a greater voice to vulnerable stakeholders, and how survey findings will be used to improve performance. Each TO's ISG should also comment on this in the publicly available report.

3.271 We will work with stakeholders to develop a common template for this.

3.272 Separately, we intend to use the results to create a league table, ranking TOs' performance. We think this should be published as part of our RIIO annual report, but welcome stakeholder views on this.

Questions

ETQ24.	What are your views on the proposed New Infrastructure Stakeholder Engagement Survey ODI-R, including areas of engagement measured, the proposed survey design, the stakeholders targeted, and the proposed reporting format?

4. Managing uncertainty

Introduction

4.1 Business plans and price controls are based on a set of assumptions on what is required over the forthcoming period. There may be significant uncertainty over some of these assumptions, and where appropriate it may be better to use mechanisms that adapt certain elements of the price control during the period. These are referred to as uncertainty mechanisms (UMs).

4.2 This chapter sets out our proposals for each UM that will apply to all the TOs during the RIIO-ET3 price control period. For details of our proposals for UMs which only apply to a single TO, see the company annexes.

4.3 As set out in the Overview Document, the UMs that we will utilise in RIIO-3 are volume drivers, re-openers, UIOLIs, pass-through, and indexation mechanisms.

4.4 Table 5 and Table 6 outline all the UMs we are proposing for RIIO-ET3 and set out where you can find full details. UMs specific to a particular company are covered in that company's respective annex.

Table 5: Cross-sectoral UMs in RIIO-3

UM name	UM type	Sector(s)	Further detail
Business Rates (prescribed rates)	Pass-through	ET, GD, GT	Finance Annex
Cost of debt indexation	Indexation	ET, GD, GT	Finance Annex
Cost of equity indexation	Indexation	ET, GD, GT	Finance Annex
Inflation Indexation of RAV and Allowed Return	Indexation	ET, GD, GT	Finance Annex
Ofgem licence fee costs	Pass-through	ET, GD, GT	Finance Annex
Pension Scheme Established Deficit	Pass-through	ET, GD, GT	Finance Annex
Tax Review	Re-opener	ET, GD, GT	Finance Annex
Real Price Effects (RPEs)	Indexation	ET, GD, GT	Overview Document
Digitalisation	Re-opener	ET, GD, GT	Overview Document
Resilience	Re-opener	ET, GD, GT	Overview Document
Cyber Resilience	Re-opener	ET, GD, GT	Overview Document
Co-ordinated Adjustment Mechanism (CAM)	Re-opener	ET, GD, GT	Overview Document
Net Zero	Re-opener	ET, GD, GT	Overview Document

Table 6: Sector specific UMs in RIIO-ET3

UM name	UM type	Further detail
Pre-Construction Funding (PCF)	PCD and re-opener	This document
Load	Re-opener and PCD	This document
Load	UIOLI	This document
CSNP-F	Re-opener and PCD	This document
Generation Connections	Volume driver	This document
Demand Connections	Volume driver	This document
Closely Associated Indirects (CAI)	UIOLI	This document
Business Support Costs	Re-opener	This document
Non-Load	Re-opener	This document
Independent Technical Adviser	Pass-through	This document
Community Benefits	Pass-through	This document
Entry and exit connection asset allowance	Volume driver	This document

Infrastructure fit for a low-cost transition to net zero

Background and context to our proposed 'load package'

Drivers of uncertainty

4.5 GB electricity network developments are influenced and impacted by the UK government's 2050 net zero commitment and CP2030, which has set a target for offshore wind capacity to be increased to 50GW by 2030, and low carbon hydrogen production ramped up to 10GW. The government is also looking to increase solar power fivefold, to as much as 70GW by 2035.

4.6 With CP2030, the NESO's Connections Reform work and the SSEP all ongoing, the portfolio of projects set out in the TOs' business plans may change.[29,30]

4.7 As a result of these uncertainties, TOs have decided to leave the majority of their load programmes out of their baseline funding requests.

Overview of our approach to managing load uncertainty

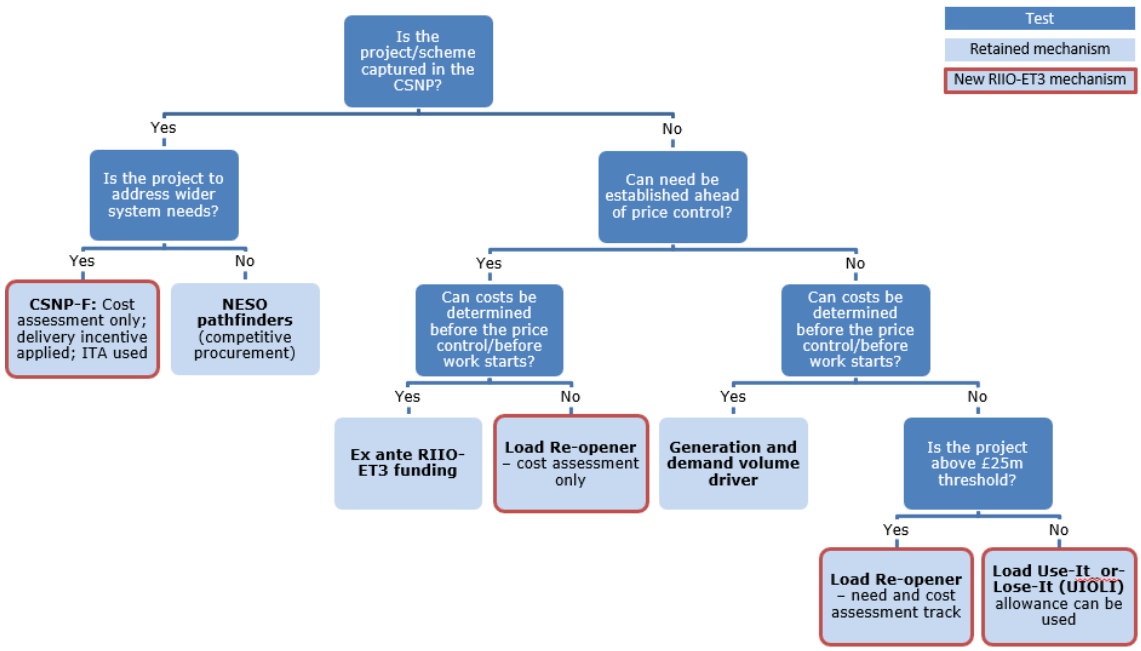
4.8 Our proposed load framework has been developed to be able to flex as a result of this uncertainty. The low RIIO-ET3 baseline requests from TOs will result in a

[29] Decision on Connections Reform Package (TM04+) | Ofgem
[30] Strategic Spatial Energy Plan: commission to NESO - GOV.UK

higher reliance upon UMs because of the volume of assessment that we need to undertake in period. We have taken lessons from past price controls, to ensure that regulatory processes do not delay critical investment while retaining sufficient consumer protections.

4.9 Our framework for assessing ET3 load projects is set out in Figure 4 and described in more detail in this chapter.

Figure 4: Proposed RIIO-ET3 load UM framework



4.10 We consider that our framework balances the challenge of accelerating network build whilst ensuring appropriate consumer protection. We will take a proportionate approach to the scrutiny of project 'need' to reflect the complexity and materiality of projects. We will use automatic mechanisms (volume drivers or UIOLIs) where possible to avoid delays.

4.11 There are also existing regulatory tools that exist during RIIO-ET2 and will continue into RIIO-ET3 that support this UM framework, described in the sub-section below.

Existing regulatory tools

Advanced Procurement Mechanism (APM)

4.12 The APM is a ~£4bn allowance that we introduced into the RIIO-ET2 price control in spring 2025.[31] The APM enables TOs to spend on securing supply chain capacity/commitments up to a pre-agreed cap so that they can then

[31] Decision to modify the special licence conditions in the electricity transmission licences: Advanced Procurement Mechanism | Ofgem

procure at short notice when required without requesting further approval from us. Spending under the APM is subject to controls to limit the risk to consumers.

4.13 The APM was designed in a manner which would enable it to operate across multiple price control periods. We consider that the benefits case for the APM, established in our March 2025 decision to introduce it, remains relevant now.[32] As such, we propose to retain the APM for RIIO-ET3. The design of the APM means that under this proposal we would carry over the APM Cap as at the end of RIIO-ET2 to the start of RIIO-ET3.

ETQ25.	Do you agree with our proposal to retain the APM for RIIO-ET3 in its current form?

Accelerated Strategic Transmission Investment (ASTI) framework

4.14 The ASTI framework was introduced to address the urgent need for significant upgrades and expansions in GB's electricity transmission network to meet government's aim to connect 50GW of offshore wind by 2030. The ASTI framework will continue to operate through specific licence conditions within the RIIO-ET3 price control, as it has done since its introduction during RIIO-ET2.

Other RIIO-ET2 funding routes

4.15 The Large Onshore Transmission Investments (LOTI) re-opener, introduced for RIIO-ET2, is designed to assess and approve funding for significant electricity transmission projects (£100m+) that arise during the price control period. The LOTI mechanism ensures large-scale investments undergo rigorous evaluation over multiple different stages of project development to justify their need, design and cost-effectiveness. This process includes detailed submissions from TOs, outlining the project's scope, benefits, and costs, followed by our assessment to determine the appropriate level of funding.

4.16 The Medium Sized Investment Projects (MSIP) re-opener, also part of RIIO-ET2, caters to projects with costs below £100m that meet specific criteria. The MSIP re-opener process involves TOs submitting detailed project proposals, which are then reviewed by us to ensure the best consumer outcome.

4.17 Projects approved through the LOTI and MSIP re-openers will continue to be constructed during RIIO-ET3. However, our SSMD set out our intent to remove these re-openers in RIIO-ET3 to replace them with one consolidated Load Re-opener, which is discussed later in this chapter.

[32] Electricity Transmission Advanced Procurement Mechanism | Ofgem

Pre-Construction Funding (PCF) PCD and Re-opener

Purpose: To provide TOs with funding at early stages of project development to continue to design and seek consent for large ET investments.

Benefits: Allows timely development of critical strategic projects, whilst protecting consumers from losses incurred on projects that fail to come to fruition.

Background

4.18 In RIIO-ET2 we established a Pre-Construction Funding (PCF) PCD and Re-opener for potential LOTI projects.

4.19 The introduction of ASTI in 2022 re-emphasised the importance of PCF and also introduced Early Construction Funding (ECF).

4.20 In our SSMD we set out that development funding continues to play an important role in facilitating the efficient and timely delivery of large new network investments and that PCF has been an effective mechanism for the TOs in enabling them to expedite project delivery.

4.21 While we did not finalise the scope and size of the PCF allowances available in RIIO-ET3, we did decide that ECF would not be continued (beyond ASTI) in RIIO-ET3. This is because the activities it covered would be captured in other mechanisms (such as the APM), could be absorbed within PCF, or were no longer required (see paragraph 4.22 below).

4.22 In relation to strategic land purchase, which was covered by ECF, we determined that this should not be transferred to PCF because the TOs have a viable route for this already. TOs can request funding for land purchase in cost assessments, as has always been the case under Strategic Wider Works (SWW), LOTI and MSIP. For this reason, we do not consider that it should be within the scope of development funding on an enduring basis (post-ASTI). In addition, it is a cost where TOs will always be best placed to manage any risk associated with the purchase (ie has the right land been purchased at the right time), and where future sale of the land largely insulates the TO from risk.[33]

Consultation position and rationale

Summary of consultation position

Baseline allowances:

[33] For the avoidance of doubt, we are not considering a change to the treatment of strategic land purchase under ASTI.

Calculated at 2.5% of currently forecast total project costs:

NGET - £100.88m

SHET - £84.52m

SPT - £52.22m

Eligibility: Once identified, all appropriate load projects will be eligible for PCF.[34]

Scope: The scope of PCF will cover activities required to enable the TOs to obtain all material planning consents and prepare for construction to begin for load schemes that are expected to cost more than £25m. This will include Early Enabling Works (EEW).

Assessment: All PCF PCD outputs will be reviewed on a project-by-project basis. The TOs will receive a percentage of their PCD allowance according to whether they have achieved specified project milestones relating to obtaining all material planning consents.

Re-opener: An authority triggered re-opener will be available to provide PCF for projects that are approved in the CSNP or deemed eligible for the Load Re-opener.

Eligibility

4.23 In the SSMD we said that we intended for PCF to be accessible across load-related expenditure as appropriate in RIIO-ET3. We propose that all applicable load projects expected to cost more than £25m will be eligible for PCF in RIIO-ET3.

4.24 We do not believe there is merit in offering funding to non-load projects because we believe costs to enhance current assets are suitably covered in other mechanisms. The goal of PCF is to expedite and support the progress of significant amounts of new load-related infrastructure to be built.

4.25 PCF will also not be offered to connections projects that are funded through the connections volume driver as costs associated with pre-construction activities are already covered through the unit rates and Closely Associated Indirects.

4.26 TOs will be able to access PCF through the Authority-triggered PCF Re-opener through two avenues: the CSNP-F and the Load Re-opener.

CSNP-F projects

4.27 We propose that we should be able to trigger the PCF Re-opener for projects identified as needed through the CSNP to enable them to access PCF funding. If

[34] Projects identified by the CSNP that are brought to us by the load re-opener. Further details on funding mechanisms are set out later in this chapter.

the CSNP has identified that a project is needed, we consider that we should grant PCF for it.

4.28 Further detail on the wider CSNP-F Re-opener can be found in the CSNP-F Re-opener section of this document.

Load Re-opener

4.29 We propose that new non-CSNP projects requiring PCF in-period can apply for PCF through the Load Re-opener, at the Eligibility Assessment stage. PCF would be awarded by us triggering the PCF Re-opener, after our assessment of the Eligibility Letter, provided the project has met all the relevant criteria and that we agree that the project should be eligible for future assessment under the Load Re-opener.

4.30 Further detail on the Load Re-opener can be found in the Load Re-opener section of this document.

PCF allocation across the ET3 package

4.31 In a change from the proposal set out in our SSMD, we do not propose to provide PCF on a portfolio basis. Instead, PCF will be assessed on a project-by-project basis.

4.32 There is a significant amount of work to be done in RIIO-ET3, however, following the submission of the TOs' business plans, it is clear that a high volume of load projects still lack certainty. For this reason, it is not possible to assess a clear PCF allowance packaged across the portfolio of each TO in the way that we envisaged in our SSMD.

4.33 Making PCF available on a project-by-project basis will also strengthen the reporting available on project spend.

Scope

4.34 We propose to largely maintain the scope of PCF established in ASTI, but we also propose to expand it to include early enabling works (EEW) in RIIO-ET3. As a result, we propose that PCF will include:

- surveys, assessments and studies that inform environmental, consenting and design feasibility decision making;
- stakeholder engagement and consultation which will be key to informing project design and progressing through the consenting process;
- project design and engineering development that move a project from being 'lines on a map' to a detailed project proposal that can be taken to the market for procurement;

- tasks associated with wayleaves and planning applications; and
- Early Enabling Works (EEW).

4.35 While EEW was captured in ECF in ASTI, it had no clear definition, allowing the TOs to use it across a broad array of work. We consider there is value in retaining funding for EEW in RIIO-ET3 to help expedite site readiness for infrastructure to be built and delivered, however we are seeking a more consistent definition which provides us with greater certainty of where consumer money is being spent.

4.36 Since the publication of our SSMD, we have analysed current expenditure on EEW to formulate a definition which could be used in RIIO-ET3. We propose that this would be: 'the establishment of site welfare and access, and validation of assumptions at design stage'. This would include (but is not limited to) activities such as:

- The installation, testing and commissioning works for GIS bays, at existing substation sites.
- Busbar modifications at existing substations to facilitate future substation growth.
- Permitted development cable works or associated enabling works for this to occur.[35]
- Modifications to the substation covered under permitted development.
- The progressing of detailed design that typically would commence during the project assessment execution phase.
- Distribution and transmission diversionary works to existing assets or new connection works.
- Advanced civils works (access roads, public road improvements, horizontal directional drilling).
- Forestry.
- Utility works (diversions, distribution network operator connections, BT upgrades due to electromagnetic compatibility requirements), and additional early contractor involvement (ECI) and initial works required to identify and quantify these.

[35] 'Permitted development rights' enable specific projects to proceed without requiring planning permission.

4.37 We believe this scope of PCF, including the addition of EEW, to be sufficient in enabling the TOs to obtain all material planning consents and prepare for construction to begin.

Size

4.38 We propose to continue the RIIO-ET2 precedent and keep the PCF allowance at 2.5% of total currently forecast project costs. When evaluating the options for setting the allowance for PCF for RIIO-ET3 we considered the following:

- We originally calculated the 2.5% allowance based on the historical average TOs had spent on PCF (on a portfolio basis) at the time of RIIO-ET2 Draft Determinations;[36]
- We expect that the addition of EEW will form only a small portion of the overall pot. From the information provided to us by TOs, which has been limited, there is nothing to indicate that the costs of EEW in RIIO-ET3 have increased disproportionately from overall project costs. Therefore, we cannot see a justification for an increase to the overall PCF size to accommodate EEW;
- There is a risk some projects will not be completed and may be cancelled due to unforeseen circumstances. This is a risk that will be placed on the consumers and must be factored into the size of the PCF allowance. Should the allowance be higher, this would increase the size of the financial risk the consumer would be facing, as a higher percentage of costs would be irrecoverable if the project wasn't ultimately needed; and
- Should the TOs spend more in RIIO-ET3 than 2.5% of total project costs, they can make a retrospective claim for remuneration through the cost assessment process.

4.39 We are open to the possibility of expanding the PCF allowance beyond 2.5% for RIIO-ET3 but are seeking further evidence from the TOs that demonstrates that the above factors, and particularly the risk to consumer, would be sufficiently addressed and mitigated. To consider expanding the size of the PCF allowance beyond 2.5% we would need the following:

- A list of all projects that the TOs expect would require PCF funding (within the scope detailed above) beyond 2.5% of overall project costs, with a breakdown of those additional costs beyond that percentage set out in the Business Plan Data Template (BPDT); and

[36] RIIO-2 Draft Determinations - Electricity Transmission Annex, table 19

- The percentage of project costs spent on PCF in LOTI and ASTI projects to date beyond 2.5%. We want greater clarity on which activities this was spent on and an assessment of how the provision of this funding has affected project timelines.

4.40 The submissions provided by the TOs to date have not included this information. On some occasions, details provided in the BPDTs have differed from those provided in Engineering Justification Papers (EJPs) and some data appears to be missing altogether. As a result, we do not have sufficient confidence in the data to propose a PCF allowance beyond the 2.5% which is supported by our existing assessment and understanding of PCF in RIIO-ET2 projects.

Assessment

4.41 For RIIO-ET3 we propose to update the RIIO-ET2 PCD structure for how PCF allowances are released:

- Where the licensee has not submitted its primary planning application for the project, 20% of the total allowance for the relevant pre-construction works will be allowed.
- Where the licensee has submitted its primary planning application for the project, 60% of the total allowance for the relevant pre-construction works will be released.
- Where the licensee has obtained all material planning consents for the project, the full 100% of the Pre-Construction Works PCD allowance will be granted.

4.42 The second and third bullets represent minor changes from RIIO-ET2, where 60% of the allowance was granted for securing consent, and 100% was granted for securing final needs case approval under LOTI. The effect of these changes would be to bring the allowances forward earlier than under LOTI, allowing TOs to progress the early stages of a project more quickly and with greater certainty, avoiding project delays which would cost consumers. We also consider that these changes, which help TOs, provide additional justification for keeping PCF at 2.5% of expected project cost.

4.43 The PCD will assess PCF on a project-by-project basis, enabling us to match the details between projects and their relevant PCF expenditure at ET3 close out.

Transitional Centralised Strategic Network Plan 2 (tCSNP-2)

4.44 A number of tCSNP2 projects which meet the respective criteria set out in our tCSNP2 funding decision will be eligible for Development Funding (DF) or PCF through two new special conditions created in RIIO-ET2.

4.45 DF is intended to allow TOs to develop tCSNP2 projects so that they are sufficiently mature to be assessed in the tCSNP2 Refresh, due in early 2026, and can be spent up to the end of the RIIO-ET2 period. The intention was to award immediate PCF to projects which had already received DF if they were then re-recommended in the tCSNP2 Refresh.

4.46 However, due to various factors, which we will cover in a separate update that we will publish in summer 2025, it is likely that the tCSNP2 Refresh will benefit from being delayed for a number of months after the beginning of RIIO-ET3. We recognise that such a decision could create a potential funding gap for the projects previously awarded DF for the RIIO-ET2 period.

4.47 We propose that TOs can continue to develop the projects specified in our DF tCSNP2 licence condition (SpC 3.44) for this period of delay (for which the exact duration is yet to be determined), and we commit that when we trigger the PCF Re-opener after the tCSNP2 Refresh, TOs will be reimbursed for efficient incurred costs during this period, incurred on project development activities (as per the approved activities for tCSNP2 DF) and pre-construction works, where these are critical to maintaining current project delivery timelines. We consider this approach is proportionate for the low materiality of spend (and therefore TO risk) required, as opposed to the regulatory burden of providing 3 months of 'bridging funding'.

4.48 There are eleven tCSNP2 projects that we have decided to award PCF to via the new special condition. The PCF awarded is for TOs to apply for and obtain planning consents for these projects, with an expectation that, depending on the project, this will be achieved over 2026/27 (ie the funding spans across both RIIO-ET2 and RIIO-ET3).

4.49 The tCSNP2 PCF condition (SpC 3.45) will be implemented within the TOs' RIIO-ET2 licences in the coming weeks. The PCF condition SpC 3.45 will likely be materially different in several ways to the RIIO-ET3 PCF condition in terms of licence conditions and requirements. Nonetheless, we consider that there are likely to be enough commonalities in terms of the conditions' purposes that it is in the best interest of all parties that - for simplicity within the RIIO-ET3 licence and for parity across equivalent ET projects - projects within SpC 3.45 should be transferred into the prevailing RIIO-ET3 PCF licence condition once RIIO-ET3 begins. In practice, this would mean transferring allowances and PCDs associated with each project in SpC 3.45 into the RIIO-ET3 PCF condition following Final Determinations.

Questions

ETQ26.	Do you agree with our intended approach to PCF in RIIO-ET3?
ETQ27.	Do you agree with our updated definition of EEW?
ETQ28.	Do you agree with our proposed approach to PCF on tCSNP2 projects?

Load Re-opener

Purpose: To enable TOs to request adjustments to their baseline allowances for new load projects which were not included in baseline allowances due to uncertainties relating to needs case, optioneering or costs.

Benefits: Provides flexibility for TOs to deliver at pace, whilst protecting the consumer from unnecessary costs, for those projects where the needs case, optioneering or costs are subject to uncertainty.

Background

4.50 In our SSMD we proposed to introduce the Load Re-opener as part of the overall load framework.[37] We stated that this re-opener will have different delivery tracks based upon our determination of the maturity and quality of the needs case, costs and optioneering of projects in the TOs' business plans:

- Where the TO can demonstrate a justified needs case, a reasonable degree of engineering design and optioneering, and reasons why the project is too immature for baseline funding, we will approve the need for the project, and it will be eligible to apply for full funding through the Load Re-opener. Such projects will be eligible for PCF from the start of RIIO-ET3; and
- Where the TO cannot fully justify the requirements set out above, the Load Re-opener will include an assessment of these requirements once available. Such projects will be eligible for PCF once the project is approved through the first stage of the Load Re-opener at latest, but potentially earlier depending on the level of project development.

Consultation position and rationale

Summary of consultation position

Scope: Projects that have a load-related driver.

Materiality threshold: Projects that are expected to cost £25m or above**.**

[37] Referred to as the Load Related Re-opener in our SSMD.

Number and date of re-opener windows: Two application windows per year**,** in April and October, except for the Eligibility Letter which can be submitted at any time.

Ability for Authority to trigger re-opener: Yes.

Tiered Assessment: Three re-opener tracks that have different degrees of regulatory scrutiny based upon the quality and maturity of a project's needs case, optioneering and cost.

Application requirements: We propose to introduce an Eligibility Assessment that allows TOs to apply for a re-opener track and allows TOs to justify the chosen solution, the quality and maturity of a project's needs case, and costs. All applications should comply with the Load Re-opener Guidance.

Applied to: All TOs.

Scope of re-opener

4.51 We propose to introduce a re-opener to enable TOs to apply for adjustments to their load-related expenditure. This would be to fund reinforcements or upgrading the ET network to ensure it can handle increased load on the network (ie generation or demand) and maintain reliability. This includes projects with shared drivers where the primary driver is load but includes elements of non-load related works (eg asset health and network).

4.52 For assets covered by the NARM, no additional funding will be provided. These assets will not be included in the asset health additions to the NARMs target. However, the new risk indices will still be incorporated into the NARM.

4.53 Given the importance of delivery for these projects, we propose to include an LO for delivery of the Load Re-opener outputs on the given delivery date.

Materiality threshold

4.54 We propose to introduce a £25m materiality threshold for the Load Re-opener. Projects below this threshold will be eligible for funding through the Load UIOLI.

4.55 We have drawn on lessons from previous RIIO price controls, noting that the regulatory burden of assessing MSIP and LOTI re-openers is broadly similar, despite MSIP being for lower materiality projects. Based on our review of historical and expected future projects, we consider a £25m materiality threshold strikes the right balance, minimising regulatory burden while maintaining strong consumer protections and reflecting the expected volume of upcoming projects.

Multiple delivery tracks

4.56 Another learning from previous price controls is that there is value in the re-opener taking account of the maturity, novelty and complexity of a project and applying a proportionate approach to the level of scrutiny involved in our assessment.

4.57 We need to ensure regulatory decisions can be made as efficiently as possible while ensuring a high degree of consumer protection. We propose that projects will be eligible for a streamlined assessment process based on a proportionate evaluation of whether the project's high-level optioneering and solution choice can be pre-approved. This is set out in our Eligibility Assessment section below.[38]

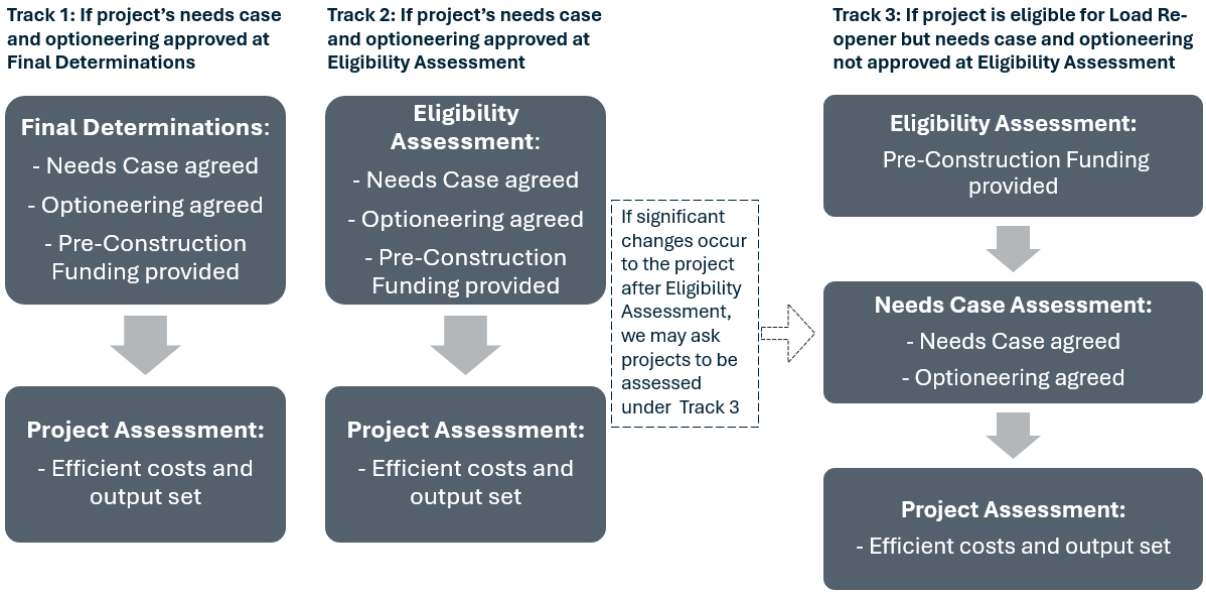
4.58 Figure 5 sets out our proposed delivery tracks for the Load Re-opener, with additional description as follows:

- Track 1 (business plan track): If a project's needs case and early optioneering is approved in our RIIO-ET3 Final Determinations, but there is cost uncertainty, the project will be eligible for funding through Track 1, which only assesses costs once they have reached appropriate cost and design maturity. Track 1 projects will be provided with PCF in our Final Determinations.
- Track 2 (fast track): The project would undergo our Eligibility Assessment, and if through this we determine that a TO's proposed solution choice and the underlying needs case can be approved, the project can move directly to the full Project Assessment stage, bypassing our Needs Case assessment. If we confirm a project's eligibility for the Load Re-opener, we will provide PCF as an outcome of our Eligibility Assessment, alongside the letter confirming eligibility.
- Track 3 (business as usual track): If, during the Eligibility Assessment, we determine that a project's solution or needs case requires further scrutiny, or if a Track 2 project has undergone significant changes to its optioneering or needs case, it must proceed to the formal Needs Case Assessment stage before the Project Assessment stage. If we confirm a project's eligibility for the Load Re-opener, we will provide PCF as an outcome of our Eligibility Assessment, alongside the letter confirming eligibility.

[38] Optioneering broadly refers to the evaluation and comparison of different project options to achieve reinforcement objectives. This involves assessing different technical designs against, inter alia, economic and environmental factors to determine the most effective and efficient solution.

4.59 We propose that projects that are £200m or greater will automatically be subject to Track 3. For such high-value projects it will be in the interest of consumers to undertake a thorough review of the optioneering and project need.

Figure 5: Load Re-opener tracks



Eligibility Assessment stage

4.60 We are taking lessons from past price controls on the need to engage with TOs much earlier in a project's development. Understanding the TO's proposed solution during the project development stage helps us accelerate our decision-making and provide TOs with a valuable steer at a time when project design can still be changed.

4.61 We propose TOs submit an Eligibility Letter if they consider a project is eligible for the Load Re-opener. This can be done at any point throughout a regulatory year. However, we encourage TOs to group together submissions and provide a minimum of 1 months' notice ahead of submissions. The more time TOs can engage with us ahead of Eligibility Letter submissions, the earlier we can give feedback on applications.

4.62 In its Eligibility Letter we propose that TOs must set out the following high-level indicative design requirements:

- TO's preferred re-opener track;
- project driver(s);
- short list of options considered;
- preferred solution choice and explanatory narrative on the rationale;

- high-level system design and expected outputs;
- cost estimates;
- delivery year;
- interactive projects; and
- interactions with CP2030 (and CP2030 referenced projects).

4.63 Detailed requirements for the Eligibility Letter will be set out in the Load Re-opener Guidance; we will work closely with stakeholders to refine this guidance in advance of RIIO-ET3.

4.64 We propose that TOs should provide us with a minimum of one month's notice for the submission of the Eligibility Letter, as this will allow us to prepare resources to assess it in a timely manner.

4.65 We will aim to provide a response to the Eligibility Letter within 3 months of the TO's submission. Our response will set out:

- whether a project is eligible for funding under the Load Re-opener;
- the relevant re-opener track under which the project should be assessed;
- the PCF being applied to this project (which will be set via a Direction to the Special Licence Conditions); and
- the rationale for our decision on these areas.

Decision on Track 2 or Track 3

4.66 We propose that our assessment of whether a project should be assessed under Track 2 or Track 3 will centre on clarity of the needs case provided by the TO in the Eligibility Letter and by us applying a proposed Pre-Approval of Solution by Engineering (PASE) framework to review optioneering.

4.67 Clarity of needs case could be shown by a clear demonstration of the specific network need or constraint the project addresses, supported by robust data and analysis. This would comprise of clearly identified investment drivers, including but not limited to:

- Consideration of NESO-driven projects - eg potential interaction or enabling works for CSNP projects and any projects already recommended by the transitional CSNPs.
- Consideration of any local or national government policies and net zero targets. This includes CP2030 and any anticipatory changes to the connections queue caused by connections reform.

- GB-wide generation and demand forecasting and pathways to meet net zero targets (with reference to Future Energy Scenarios 2025 and the SSEP).
- Linked to above, the TOs' assessments of likely outturn connections projects on their own regional networks.
- Consideration of non-load related expenditure (NLRE) where there are potential synergies with load-related expenditure.
- Alignment with the latest Network Options Assessment (NOA) or equivalent strategic planning documents.
- Evidence of system constraints or future capacity shortfalls.
- Consideration of credible counterfactuals (eg 'do nothing' or 'do minimum' scenarios).

4.68 In addition to the above consideration of investment drivers, we are consulting here on using PASE to determine when projects should fall into Track 2 or Track 3 of the Load Re-opener. PASE sets out a range of project and solution types for which we would not undertake a detailed optioneering review.[39] Projects that align with PASE will be eligible for Track 2 of the Load Re-opener. The types of projects and solutions which are selected are split into 'Linear' and 'Non-Linear' groupings.

4.69 We consider that the application of PASE supports the objectives of the Load Re-opener by helping us determine when a detailed optioneering review is necessary, and when it is not. Specifically, it helps us understand:

- Trade-offs between initial and whole-life costs of a project. While some solutions may involve higher upfront costs, PASE allows us to consider their long-term value. Based on our engineering expertise and experience with load-related projects, we can identify cases where the lifetime benefits to consumers, such as improved network performance or reduced long-term costs, justify a higher initial investment.
- Adaptability to technological and policy changes: PASE also helps us identify solution types that are inherently flexible and have historically proven to be well-established, continually innovated, and capable of adapting to future changes in technology or policy. Because of this adaptability and track record, we can be reasonably confident in their long-term consumer value, reducing the need for a detailed optioneering review.

[39] Optioneering broadly refers to evaluation and comparison of different project options to achieve reinforcement objectives. This involves assessing different technical designs against, inter alia, economic and environmental factors to determine the most effective and efficient solution.

4.70 The projects that we consider as having these characteristics and which we are proposing to include in PASE are as follows:

Linear:

- Type: Solution - New routes; Electrical Layout: Double Circuit & Maximum Ratings, Physical Assets: Overhead Lines (OHL).
- Type: Reconductoring with Maximum Ratings.
- Type: Dynamic Line Ratings.

Non-Linear:

- Type: Solution - New Substations; Electrical Layout: Double Bus Bar, Maximum Ratings; Physical Assets: Air Insulated Switchgear.
- Type: Solution - New Substations; Electrical Layout: Single Switch Mesh - only on single customer connections and not on Boundary related Circuits; Maximum Ratings; Physical Assets: Air Insulated Switchgear.
- Type: Solution - Atypical Substation Existing Extensions; Electrical Layout: Double Bus Bar, Maximum Ratings; Physical Assets: Air Insulated Switchgear.
- Type: Project - NESO Approved Pathfinders.
- Type: Project - Active Network Management Schemes.

4.71 Where we determine that a project does not meet PASE and an alternative solution may be required, we will undertake a formal optioneering review as part of a separate Needs Case Assessment ahead of the full Project Assessment. There may be good justifications for certain solution choices; for example, space limitations, specific environmental conditions, and alternative reliability requirements may require alternative designs. From our experience in past price controls, it is important that we assess solution choices that are more complex than the ones we are proposing to include in PASE to ensure the solution choice is in the consumer's interest.

4.72 We consider that undertaking this form of early technical assessment helps resolve engineering concerns more effectively. We consider an early technical assessment gives TOs the flexibility to make pre-emptive strategic investments and utilise innovative technologies, to both address future capacity and issues, as well as managing asset conditions or obsolescence effectively, because it will give us sufficient early visibility of the trade-offs TOs make as part of their early optioneering.

Needs Case Assessment stage

4.73 For projects determined by us as being eligible for Track 3, the purpose of this stage is to review the progression and any changes to the project since the Eligibility Letter stage and reach a final view on needs case, optioneering and solution choice.

4.74 Our assessment will determine if key drivers for the project remain and whether the design and cost of the project has materially changed. The output of this stage, if our assessment is positive, would be to formally confirm the need for the project, our contentment with the design of the project and direct TOs to apply for the Project Assessment stage.

4.75 For projects determined by us as being eligible for Track 2, TOs must notify us if the solution choice substantially changes from that proposed in the Eligibility Letter. Where projects do substantially change, we will require TOs to apply for a Needs Case Assessment to ensure the needs case is still valid and the solution choice is still in the interest of consumers.

4.76 We propose that Needs Case approval may be sought through any Load Re-opener window that falls during or after the planning consents process for the relevant project. Planning consent does not need to be secured ahead of the Needs Case submission. We believe that decoupling the Needs Case Assessment from the conclusion of the planning process provides greater flexibility to TOs and will help accelerate the process relative to RIIO-ET2 re-openers.

4.77 To support a robust Needs Case Assessment, TOs must clearly demonstrate through a Cost Benefits Analysis (CBA) that the proposed project solution delivers tangible benefits to consumers, underpinned by a clear articulation of the network need (as per paragraph 4.67). This includes, but is not limited to:

- reductions or avoided constraint costs;
- improved system reliability and resilience; and
- enabling of low-carbon generation and contribution to net zero targets.

4.78 We expect TOs to include sensitivity analysis to demonstrate that the project remains beneficial under a range of plausible assumptions. The narrative should focus on how the investment will deliver value to consumers.

4.79 TOs are expected to demonstrate a robust optioneering process to ensure the proposed solution delivers best value for consumers. This includes, but is not limited to:

- Evaluation of credible options considered to address the identified network need. This should include non-build or demand-side alternatives where appropriate.
- Rationale for selecting the preferred solution is clearly articulated, demonstrating how it offers the greatest benefit to consumers relative to other options. This should be supported by quantitative analysis (eg CBA).
- How the optioneering process leads to a preferred option that is adaptable to future changes on the network and policy.
- Any evidence of engagement with key stakeholders that has refined the option.
- For Track 2 projects, TOs must notify us if the solution choice materially changes from that proposed in the Eligibility Letter.

4.80 We will aim to complete our Needs Case within 4-6 months of submission by the TOs. TOs must give a minimum of one month's notice to us before applying for an Optioneering Assessment.

Project Assessment stage

4.81 This is the final assessment stage in the Load Re-opener process before a new Load Re-opener Output and associated allowances are set in the licence.

4.82 The Project Assessment determines the efficient cost allowance for the delivery of the project. We will focus on the TO's readiness to proceed with delivery, as well as the efficiency of the total forecast costs of construction, risk contingencies and other elements of delivery.

4.83 The TO must engage with us in the months leading up to its Project Assessment submission to help ensure that its submission will enable us to conduct an effective assessment.

4.84 There will be two project assessment submission windows each year, in April and in October. TOs can apply in these windows when planning applications have been submitted. TOs must also demonstrate a robust and well justified cost estimate, though the level of detail should be proportionate to the project's scale, supported by detailed engineering designs, procurement outcomes and risk assessments. We expect that we will take approximately 6 months to publish our Project Assessment decision.

Cost and Outputs Adjusting Events

4.85 For the Load Re-opener we propose to continue the Cost and Outputs Adjusting Event (COAE) arrangements established for LOTI for the Load Re-opener. This

allows TOs to request adjustments to their allowed revenues and outputs for force majeure events outside of their reasonable control, for which they could not have economically and efficiently planned a contingency and has a material impact on the scope or cost of the project.

4.86 This mechanism is intended to protect TOs in the event of an extreme externality and to allow us to assess whether additional funding or changes to output commitments are required. We expect TOs to manage project risks associated with project delivery using the TIM; the COAE reserved for exceptional circumstances only and subject to our approval.

Questions

ETQ29.	Do you agree with our proposed scope, re-opener windows and materiality threshold for the Load Re-opener?
ETQ30.	Is it clear how the different Load Re-opener tracks operate, and do you agree with the rationale for introducing them?

Load UIOLI

Purpose: To accelerate funding for specified load related projects via a UIOLI allowance, to ensure recovery of any unused allowance and to reduce regulatory burden.

Benefits: Flexibility for TOs to prioritise activities whilst providing protection to consumers for activities not undertaken.

Background

4.87 In our SSMD, we decided to introduce a UIOLI mechanism for supporting lower materiality load-related projects. We noted the importance of having a mechanism besides baseline funding to capture projects below the Load Re-opener and outside Generation and Demand Connections Volume Driver thresholds. We discussed our minded-to position that the UIOLI would apply for projects below £25m.

Consultation position and rationale

Summary of consultation position

Scope: Atypical connection projects, NESO-directed projects, NESO-driven requirements, harmonic filtering equipment requests, protection equipment, and projects to maintain Security and Quality of Supply Standard (SQSS) compliance.

Materiality threshold: Projects below £25m.

Funding level: NGET - £425.25m; SHET - £143.10m; SPT - £121.10m.

Allowance recovery: Unused Load UIOLI allowances will be recovered at the end of RIIO-ET3.

Reporting and governance: A Governance Document will ensure proper use of the Load UIOLI allowance.

Applied to: All TOs.

Scope

4.88 The areas that we are proposing for inclusion in the Load UIOLI generally reflect those we proposed in our SSMD, aided by our assessment of TO business plans. These are:

- Atypical connection projects: eligible projects falling outside a tolerance threshold derived through the following method (as set out in 4.101): we propose identifying outliers using a tolerance range set at ±1.5 times the standard deviations from the efficient unit cost rate calculated using regression models for each network company.
- NESO-directed projects: eligible projects that receive a robust justification for the project from the NESO.
- NESO-driven requirements: eligible projects arising from written requests by the NESO for additional investment in relation to system operability and constraint management requirements.
- Harmonic filtering equipment requests: eligible projects arising from requests from TO customers to aggregate and deliver harmonic filtering requirements, or following NESO or TO system studies showing a potential breach of planning limits.
- Protection equipment: eligible projects arising from changes required to address system issues following NESO or TO system studies; includes Operational Load Management Schemes, subject to the receipt of a System Operator Transmission Owner Code (STC) planning request.
- Projects to maintain SQSS compliance: eligible projects arising from TO justification of the need to modify the network to meet SQSS compliance for security and system operability.

4.89 We believe a Load UIOLI provides TOs with the flexibility to choose how and when to deliver load projects of lower materiality. Based upon lessons from past price controls, we consider this to be the right approach to manage the scale of build required compared to the degree of regulatory oversight required to assess lower materiality projects.

Materiality threshold

4.90 We propose a materiality threshold for the Load UIOLI of sub-£25m. We believe that this provides the appropriate balance between minimising regulatory burden on Load UIOLI projects against the consumer risk associated with higher value projects.

Reporting and governance

4.91 We propose to introduce a Governance Document setting out how we will monitor the use of the Load UIOLI. This will ensure that only eligible projects are funded by the UIOLI.

4.92 The Governance Document will also set out how we will recover any unused allowances at the end of the RIIO-ET3 price control period.

4.93 We expect costs and volumes of projects that are funded through the Load UIOLI to be reported to us on an annual basis through the RRPs.

Applied to

4.94 All TOs. Each TO would have a separate UIOLI allowance; the figures above are subject to change (based on project inclusion in or exclusion from the Load UIOLI).

Questions

ETQ31. Do you agree with the scope and materiality threshold for the Load UIOLI?

Generation and demand connections volume driver

Purpose: To deliver capacities to accommodate changing volumes of connection of generation and demand customers.

Benefits: Providing flexible funding for the network companies to invest in the transmission network in response to the uncertain need of new generation or demand customers to connect.

Background

4.95 Customers connecting to the transmission network fall into two categories: generation (electricity generators and storage operators) and demand (industrial or large commercial sites, and distribution network operators). Generation connections often require building additional capacity at substations and reinforcing the existing network, while demand connections may involve installing new bays at Grid Supply Points (GSPs) or constructing new GSPs. TOs

must provide new or modified connection offers within required licence timescales and ensure the transmission network meets technical requirements.

4.96 Due to the customer-led nature of these works, there is uncertainty on the future investment necessary to accommodate the connection of new customers to the transmission system. To overcome this, in our SSMD, we decided to retain the volume drivers for network investments related to generation and demand connections projects, where the needs case is uncertain, the work is repeatable, measurable and unit costs can be accurately estimated based on historical data.

4.97 Where the outturn volume of activities deviates from the baseline assumptions, the volume driver mechanism adjusts the allowed revenue accordingly. For example, if the volume of new connections is higher than expected, the TO may receive additional revenue to cover the associated costs.

Consultation position and rationale

Summary of consultation position

Scope: Typical projects where the needs case is uncertain, the work is repeatable, measurable, and unit costs can be accurately estimated based on historical data.

Single driver models: The use of a single rate volume driver for individual components provides more accurate outputs and better reflects the costs that companies will be likely to incur in connecting generation and demand.

Risk protection: We propose to introduce an asymmetric stepped TIM approach to the volume driver mechanism, to drive efficiency and protect customers and companies from significant deviations between forecasted and actual unit cost.

Applied to: All TOs**.**

Modelling approach for drivers

4.98 We have reviewed the range of options suggested by the TOs and, having considered these, propose that using single-rate volume drivers—based on one component as the independent variable per model, such as capacity (MW/MVA), overhead line length (km), or cable type—provides more accurate and cost-reflective outcomes than complex multi-variable models, which include multiple components as independent variables. These simpler models reduce the risk of cost misallocation and better match actual project costs, as they reduce the risk of capturing noise in the model, where substation costs could be captured in the OHL coefficient, if using a multiple linear regression. It therefore allows for a

clearer relationship between the independent variable (component) and dependent variable (unit cost rate).

4.99 Models based on individual TO project portfolios gave better predictions than those based on the pooled sample of all TOs' projects, due to differences in project types and regional network conditions. We therefore propose to use TO-specific volume driver parameter values to differentiate between TO-specific regressions and all company regressions.

4.100 For all TOs, we propose to exclude the intercept in the models. The intercept in a regression model represents the expected value of the total cost when the volume of work is zero, which in RIIO-ET2 represented the fixed cost element. In RIIO-ET3, the data itself reflects the fixed costs, and we consider that the model doesn't need an intercept to account for them. By excluding the intercept, the model does not add any fixed cost twice, avoiding double funding.

Establishing projects to exclude from modelling

4.101 We propose to exclude projects whose costs, volumes and unit rates are at the extreme range of the portfolio of potential connection projects from the modelling for the volume driver. Including such projects in the modelling could over inflate or deflate allowances for typical projects that may result in excessive allowances for TOs (or, if allowances were too low, potentially delayed connections).

4.102 To establish whether a connection project is included in the regression model,[40] that is used to determine the unit rates (see paragraph 4.104), we propose identifying these projects by using the interquartile range (IQR) of all projects for each component, for volume, cost and unit cost. Any project that sits beyond the range defined by 1.5 times the IQR from the first quartile (Q1) or third quartile (Q3) for either volume, cost or unit cost is considered atypical in scope and excluded from the model.

Treatment of atypical projects

4.103 We propose to use the Load Re-opener to allow TOs to request funding for projects with costs that significantly deviate from expected levels (atypical projects). This is a separate process from the regression model used to determine unit rates. While paragraph 4.102 describes how outliers are excluded from the regression model using the Interquartile Range (IQR) method, the

[40] A statistical tool used to estimate the relationship between project costs and key drivers (such as circuit length or capacity), helping to predict future costs based on TO forecast data. See paragraph 4.104.

Load Re-opener instead applies a different statistical threshold: a tolerance range of ±1.5 times the standard deviation around the modelled cost. If a project's forecast cost falls outside this range and exceeds £25m, it is considered a material deviation and may qualify for additional funding. Projects below £25m may be funded through the Load UIOLI mechanism.

Establishing unit rates

4.104 To maximise the dataset for the regression models, the applicable unit rates for all three TOs are based on the total costs and volumes of schemes in their dataset and includes the costs of investment required to connect new connection customers across two asset types:

a) connection assets (those forming the immediate connection to the transmission substation and capable of use by only one customer).

b) assets beyond the connection charging boundary, known as infrastructure assets, which are associated with customer choice of the design and type of connection.

4.105 Our analysis on a range of scenarios and a range of different datasets, including from RIIO-ET2 RRPs and from RIIO-ET3 BPDTs, indicated that using RIIO-ET3 forecast data would provide the most accurate unit rates, as it is most reflective of upcoming projects. Due to the nature of the single variable models, however, where it is not possible to produce a model using RIIO-ET3 data, because of either insufficient data provided or the model not yielding significant results, RIIO-ET2 data will be used to produce an alternative unit cost rate.

4.106 To further increase the sample sizes in the models, we tested the impact of wider works projects being included in the models. This was done by including wider works as a dummy variable, which indicated to us whether there was a statistically significant difference in the average cost between wider works projects and connection or infrastructure projects. If there was not a statistically significant difference, wider works projects were included in the model for the analysis.

Interaction with TIM

4.107 We propose the 'stepped TIM' (set out in Chapter 5) will be applied to the volume drivers as a part of overall totex to ensure that companies are neither unduly penalised nor rewarded for deviations between the actual and model-derived unit costs driven by external factors, while maintaining incentives for efficient delivery and accurate forecasting. We propose that this would be done

by treating expenditure under the volume driver as general totex spend and not having a separate treatment for it.

Treatment of RIIO-ET3 Volume Driver crossover projects

4.108 We propose to include a provision in the volume driver to trigger a funding adjustment to cover 'crossover' connection projects that require costs to be incurred in RIIO-ET3 to facilitate delivery in the first or second year of RIIO-ET4 (ie 'ET3+2'). We consider that it is in existing and future consumers' interests to set clear parameters and incentives for TOs to deliver these customer-driven outputs in an efficient and timely manner.

Profiling allowance

4.109 Profiling allowances refers to the process of spreading expenditure over time to reflect when costs are expected to be incurred, to ensure funding is made available as a project progresses, the profile of the allowance provided via the volume driver will be a percentage of the total allowance for the project.

4.110 We propose that for all TOs, for both generation and demand, we assume a flat four-year profile will apply (25% per annum). The efficient costs of the delivered output in a given year as calculated by the volume driver will be profiled over the relevant price control years using the four-year profile.

4.111 We recognise that construction profiles evolve over time in response to broader industry and market conditions. We welcome views and justifications on alternative profiles from stakeholder that may better align with outturn connections delivery.

Questions

ETQ32.	Do you agree with our proposed design of the generation and demand connections volume driver mechanisms?
ETQ33.	Do you agree with our proposal to apply the 'stepped TIM' to volume drivers as part of general totex?
ETQ34.	Do you agree with our proposed methodology for excluding atypical connection projects from the regression model?
ETQ35.	Do you agree with our proposal to use the Load Re-opener (above £25m) and Load UIOLI (below £25m) to fund projects that fall outside ±1.5 standard deviations from the regression model?
ETQ36.	Do you agree with our treatment of RIIO-ET3 Volume Driver crossover projects and our approach to allowance profiling?

CSNP-F Re-opener

Purpose: To enable us to make licence changes that reflect NESO recommendations resulting from the CSNP or other centralised planning processes.

Benefits: To ensure timely funding and facilitation of CSNP projects that arise during the RIIO-ET3 period. To enable application of other mechanisms including PCF, the CSNP-F ODI-F and the Independent Technical Adviser (ITA), which further support these benefits.

Background

4.112 In our SSMD, we decided to introduce the CSNP-F mechanism to allow us to quickly designate recommended projects as price control outputs, and to fund and facilitate the delivery of these projects in a timely manner. CSNP-F Outputs will typically be projects that have been recommended by the NESO as the result of a centralised planning process, meaning that these projects are part of an optimised plan based on system needs. These projects are important and need to be progressed quickly, but as the first CSNP will be delivered in 2027, it is not possible for it to inform the TOs' business plans for RIIO-ET3 - therefore we need this re-opener to allow us to fund these projects as they arise during RIIO-ET3.

4.113 We will have a role in approving the NESO's proposed CSNP or directing changes prior to finalisation of the plan. We can then take the plan as the full 'needs case' without requiring further justification from the TOs, which will help to avoid delays to the TOs commencing with the activities required for delivering these projects.

4.114 In their business plans, the TOs reiterate that a re-opener is the most appropriate way to manage projects resulting from the CSNP. Replies to the Call for Evidence also agreed that it is appropriate to use a UM to facilitate these projects.

Consultation position and rationale

Summary of consultation position

UM Type: Re-opener to designate CSNP-F Outputs, provide a route for Project Assessment Decision (setting costs once the TO is ready to submit full design and cost details), and for adjustments in response to COAE.

Scope: Projects designated as important for addressing system needs either through the CSNP or other NESO-led centralised planning processes.

Number and date of re-opener windows: There will be re-opener windows for TO submissions for Project Assessment Decision in April and October each year. Designation of CSNP-F Outputs and COAE applications can happen whenever required, but a COAE application by the TO must be no later than 3 months after the delivery date for that CSNP-F Output.

Ability for Authority to trigger the re-opener: Yes. Designation as a CSNP-F Output is Authority-triggered only. Project Assessment Decision can only be triggered by the TO. A COAE re-opener can be triggered by either the Authority or the relevant TO.

Materiality threshold: No materiality threshold for designation of a CSNP-F Output or Project Assessment Decision. Materiality threshold for COAE is 10% of the project cost allowance.

Applies to: All TOs.

UM Type

4.115 We have a responsibility to facilitate delivery of those projects that form part of the centralised plan, and the CSNP-F will enable us to make quicker decisions. This is because we can take the NESO's inclusion of a project in its CSNP or the output of other centralised planning processes as demonstration of the needs case, meaning that the TO does not have to submit a separate needs case to us for assessment.

4.116 Once the TO has full detail on the project design and cost they can provide a submission for a Project Assessment Decision. Approval of a project through this process will result in an update to the CSNP-F Output definition and delivery date, as well as including an allowance to reflect the approved project cost.

4.117 The TO may apply for an update to the CSNP-F Output definition, cost, or delivery date through the COAE process, if there has been a relevant COAE (eg an extreme weather event).

4.118 Given the importance of delivery of these projects, we propose to include an LO for delivery of the CSNP-F Outputs on the delivery date included in the licence. This delivery date will be set as the ODD as determined by the NESO unless amended in the licence, such as by COAE.

Scope

4.119 The CSNP-F Re-opener is for projects that arise from the CSNP or other NESO-led network plans.[41] Following publication of any such plan by the NESO, we will provide confirmation of which projects will be designated as CSNP-F Outputs.

4.120 For a project to be designated as a CSNP-F Output, we would require that the projects included in the NESO publication:

- have a confirmed needs case;
- are not at the time determined as likely to be delivered through onshore competitive tenders;
- are developed to a suitable minimum level of project design that allows the TO to proceed with pre-construction activities;
- have an ODD indicating when the project should be delivered to maximise consumer benefit; and
- are accompanied by an indicative view of the project totex.

4.121 CSNP-F Outputs are then eligible for:

- PCF, as set out from paragraph 4.14;
- Project Assessment and Decision, at which point we will set the full project allowance; and
- COAE processes to allow for changes to the allowance or output definition.

4.122 There is a low potential risk that TOs may invest or build significantly earlier than necessary, leading to avoidable consumer bill impacts during a period of high energy costs. We consider that issuing PCF once a project is designated as a CSNP-F output, currently proposed at 2.5% of forecast project cost, is a proportionate level of funding to give at that stage based on the NESO's plan. The timing of subsequent funding will be determined at Project Assessment Decision stage, and we will ensure that the timing of allowances aligns with the optimum timing of when assets are needed to help smooth bill impacts.

Ability for Authority to trigger the re-opener

4.123 Designation of CSNP-F Outputs can only be triggered by us, which will be done based on NESO recommendations for projects to proceed. Non-NESO recommended projects, ie those proposed by the TO, should instead make use of the Load Re-opener, discussed from paragraph 4.50.

[41] We are considering whether tCSNP2 and tCSNP2 Refresh projects will be progressed through RIIO-ET3 using the Load Re-opener or the CSNP-F Re-opener.

4.124 The TOs may provide a submission for Project Assessment Decision in the re-opener windows in April and October each year. This cannot be triggered by us as it requires TO inputs.

4.125 We or the TO may trigger a COAE assessment whenever the criteria (eg around the type of event and it being outside of the TO's control) are met. The TO must submit any COAE application no later than 3 months after the delivery date for the relevant CSNP-F Output.

Materiality Threshold

4.126 We do not propose to have a materiality threshold for designation of a CSNP-F Output, having committed in our SSMD to review our earlier proposal for a £100m threshold once we had more clarity on the CSNP methodology and the potential portfolios.

4.127 We consider a materiality threshold for designation of a CSNP-F Output is not necessary because we consider that all ET projects determined as important for the delivery of an optimised plan (eg the CSNP) have been determined as part of a portfolio with high potential for interlinkages. We therefore consider it important that we do not exclude any CSNP projects from the CSNP-F Re-opener, so that we can use this uncertainty mechanism to allow the TOs to quickly proceed with these projects.

4.128 The designation of a project as a CSNP-F will serve as the trigger for a TO to consider making an application for Project Assessment Decision, however application can only be made once the project is developed to a detailed design and cost proposal to inform our assessment and decision.

4.129 We propose a materiality threshold for an allowance adjustment through the COAE process of 10% of the allowance for the CSNP-F Output at the time of submitting the COAE application. This is lower than the 20% applied to the LOTI Re-opener in RIIO-ET2. We recognise that with the volume of projects the TOs will be required to deliver in the coming years, a high COAE threshold results in significant TO exposure to the risk of cost increases.

Questions

ETQ37.	Do you agree with the proposed scope of the CSNP-F Re-opener?
ETQ38.	Do you have any views on our proposed design of the CSNP-F Re-opener?

Treatment of T2/T3 Crossover Projects at RIIO-ET2 Close Out

Purpose: To ensure licensees recover efficient costs associated with projects that span different price control periods.

Benefits: TOs have continued funding to deliver outputs that were established in the previous price control period.

Background

4.130 We recognise the complexity and scale of capital projects that span the RIIO-ET2 and RIIO-ET3 price controls. We acknowledge TOs' concerns about the treatment of projects that started in RIIO-ET2 but will complete in RIIO-ET3—specifically, the lack of clarity around whether a RIIO-ET2 mechanism exists to address this and whether mechanistic PCDs could trigger clawback for delivery beyond 31 March 2026.

Consultation position and rationale

Summary of consultation position

Governance: Ensure that efficient and justified RIIO-ET2-incurred costs for projects delayed into early RIIO-ET3 are appropriately funded—either through RIIO-ET2 close out or mechanisms within the RIIO-ET3 framework.

Funding level: No baseline allowance.

Applied to: All TOs.

4.131 To provide clarity and assurance, we confirm that:

- For projects that started and incurred costs in RIIO-ET2 but have justified delays into early RIIO-ET3, we will use the RIIO-ET2 close out process to consider funding for RIIO-ET2-incurred costs, even where outputs are not fully delivered by 31 March 2026.
- For projects that are planned to deliver in RIIO-ET3 but were initiated in RIIO-ET2, we will work with TOs to ensure that efficient RIIO-ET2 costs are recognised, either through close out or through appropriate treatment in the RIIO-ET3 framework (eg volume drivers, re-openers, or bespoke PCDs).
- We will ensure that no efficient and justified investment is left unfunded solely due to projects falling between regulatory funding periods.

4.132 Further engagement with TOs will be undertaken ahead of Final Determinations to refine the approach and address any outstanding issues.

Questions

ETQ39. Do you agree with our proposed approach to T2/T3 crossover projects?

Independent Technical Adviser (ITA)

Purpose: To provide assurance to us on the design, procurement and overall project delivery of selected load-related projects.

Benefits: Independent scrutiny of TO's approach to delivering key load-related projects informing our decision-making to hold TOs to account and enable timely delivery.

Background

4.133 In our SSMD we proposed the introduction of an ITA as part of the CSNP-F. The ITA will provide assurance of design decisions, procurement processes and overall project delivery for in-scope ET projects. In summary, we decided the following:

- Scope: The ITA will have three key areas to its scope: design, procurement and cost. It will assure delivery timelines across both the engineering and procurement areas. ITA scope may vary between projects dependent on project characteristics.
- Eligibility: Only a subset of CSNP-F projects will be eligible for the ITA. We will make the final decision on eligibility based on three main criteria: project cost, project complexity and whether there is a delivery incentive in place.
- Duty of care: The ITA will have a duty of care to us, to ensure that we are solely able to direct it to act in a way which we consider is in the interests of consumers.
- Scope setting: We will be responsible for setting the ITA's precise scope (ie terms of reference), to ensure it is in line with consumers' interests.
- Funding: The ITA will be funded by the TOs, with the cost recoverable through the price control.
- Organisational structure: The ITA will be appointed as one party, which could be in the form of a single organisation, a consortium, a joint venture, or similar framework. The appointed party will assure all eligible projects from all TOs.

- Contract structure: We will appoint one ITA at a time. There will be one ITA appointed to be the adviser for all new eligible projects for a set period of time.

4.134 We continue to develop the framework for the ITA, in collaboration with TOs and industry. We consider the planned associated document (ITA Governance Document) the appropriate forum to consult on governance and operational processes, which will be published after RIIO-ET3 Final Determinations.

Consultation position and rationale

Summary of consultation position

UM type: Pass-through.

Eligibility: Expand eligibility to include tCSNP2 refresh and non-CSNP load-related projects - aligning with CSNP-F ODI-F. In addition to project complexity and materiality characteristics, project importance characteristics will also be considered in ITA eligibility decision-making.

Governance: Data protection and conflicts of interest management plans and supporting guidance will be developed to alleviate risks.

Funding level: No baseline allowance.

Applied to: All TOs.

UM type

4.135 In our SSMD we stated that the ITA will be funded through the price control. We propose that this should be done as a pass-through cost. As we are responsible for defining the ITA's scope and the ITA will have sole duty of care to us, we consider there to be minimal risk to the consumer from this approach.

Eligibility

4.136 As in our SSMD, we consider that eligibility for the ITA will be assessed on a project-by-project basis, from a combination of cost and non-cost criteria. Evaluation will determine project-specific scope, which will vary between projects.

4.137 We do not consider it possible at this time to set out the criteria to determine ITA eligibility without risking either under or over-use of the ITA.

4.138 We consider that some flexibility in determining project eligibility is desirable, as regulatory discretion may be required to ensure the ITA's scope remains manageable and aligned to the policy intent. It is also possible that strategic

priorities of government and other key stakeholders may change, meaning ITA eligibility may need to evolve to reflect the priorities of the time.

4.139 Outlined below is our updated position regarding the types of projects that should be considered for ITA assurance, along with the key project characteristics, both cost and non-cost, that will shape our decision-making.

4.140 We propose to further consult on ITA eligibility considerations as part of the ITA Governance Document consultation following Final Determinations, in expectation that CSNP methodology will be clearer at this time. We also propose, as per our SSMD, that we will consult on which projects the ITA will assure and the scope of involvement as soon as reasonably possible following CSNP publication (based on agreed eligibility considerations).

4.141 In the future, once there is more clarity regarding the CSNP, we will consider whether the ITA eligibility process can be more automatic.

4.142 Regarding key eligibility considerations, as summarised in Table 7, our view is that:

- Assessment of eligibility should be holistic, meaning no specific consideration (eg a materiality threshold) will by default determine in and out of scope projects.
- As per our SSMD, project complexity (eg technological and design novelty) and materiality (eg high cost means a project is more likely to have ITA assurance and vice versa) will be key eligibility considerations.
- In consideration of our consultation position on the CSNP-F ODI-F, which proposes incentive eligibility for all CSNP-F outputs and selected non-CSNP-F outputs, we no longer consider CSNP-F ODI-F eligibility a key consideration for ITA eligibility. Instead, we propose ITA eligibility should consider the strategic importance of a project. This will include consumer value characteristics such as constraint savings and the cost of carbon, as well as how the project relates to ET planning priorities (eg CP2030). Our intent is that compared to the CSNP-F ODI-F, the ITA assures relatively fewer high priority projects.
- tCSNP2 Refresh projects should be considered for ITA eligibility. This position also aligns ITA policy with our consultation position on the CSNP-F ODI-F.
- Selected non-CSNP load projects in the Load Re-opener could be considered for ITA eligibility. We expect ITA assurance of non-CSNP projects to be relatively uncommon, however, we consider this option desirable as there

may be scenarios where a non-CSNP project meets the same eligibility characteristics of CSNP projects. For example, a Load Re-opener project may be strategically important to the delivery of a CSNP project that the ITA is assuring, meaning assurance of both projects is valuable. This position also aligns ITA policy with the CSNP-F ODI-F, meaning any incentivised project could have ITA assurance if required.

- Some events may occur to a CSNP-F project, such as a COAE or Delay Event, which is not determined for ITA assurance. In such cases, we propose there should be flexibility to introduce the ITA if the project is not already in-scope (pending appropriate consultation). We believe flexibility to introduce ITA involvement on projects facing challenges or significant scope change may be beneficial to manage future risks.

Table 7: ITA eligibility - project types and characteristics

Eligible project types	**Project eligibility characteristics**
CSNP outputs.	Materiality (eg high cost).
tCSNP2 Refresh outputs.	Complexity (eg design and technological).
Selected non-CSNP load projects from the Load-Related Re-opener.	Strategic importance (eg constraint and carbon savings).
Projects where a COAE or Delay Event occurs.	-

4.143 We will include further detail regarding the above characteristics and associated consultation process within the ITA Governance Document.

Governance

4.144 Conflicts of interest is an issue which has been raised by some stakeholders since our SSMD. Notably, we acknowledge concerns TOs have raised about the sharing of confidential information with the ITA.

4.145 To achieve the policy aims of the ITA, we believe information sharing with the ITA should aim to be as seamless as possible, minimising the risk of operational constraint and burden. However, this should not be achieved by introducing unacceptable levels of risk to data and information security.

4.146 As part of the procurement process for the ITA, suppliers will be required to outline the systems, processes and protocols they would apply as the ITA to ensure data security, protect confidential information and manage conflicts of interest (ie internal firewalls and individual confidentiality agreements). We will also consider whether appropriate due diligence has been applied in any self-

assessment of conflicts of interest by interested suppliers as part of the same process.

4.147 In respect to minimising potential conflicts of interest, we have also considered whether alternative approaches to organisational structure may be more suited to reducing any risk (ie the use of multiple concurrent ITAs to manage conflicts). However, we maintain our SSMD consultation position regarding 'one party' being the most appropriate structure. This is supported by early market engagement conducted since our SSMD, which indicated that although conflicts of interest is a clear challenge, it can be managed.

4.148 As part of this consultation, we are seeking views from the TOs, as well as other interested stakeholders, about what information should be shared between the two parties, and how this is information should be shared. We aim to find the appropriate balance between our policy aim of creating better oversight and assurance of project plans, while maintaining the integrity of confidential information. We note that information provided to us would be subject to the existing legislative protections set out in the Utilities Act.

ETQ40.	Do you have any views with our proposed approach to ITA project eligibility?
ETQ41.	Do you have any views on the appropriate information sharing boundaries between the TO and an ITA, and how any conflicts could be managed?

Carbon Compensation UIOLI (for NGET and SPT)

Purpose: To fund compensation of unavoidable GHG emissions, typically associated with capital construction, through carbon offsetting.

Benefits: Meets stakeholder expectations to mitigate or compensate for environmental impact and ensures consumers only pay for delivered output.

Background

4.149 In RIIO-ET2, NGET has a £2.5m UIOLI allowance in the fifth year of the price control to deliver net zero capital construction using carbon offsets (named the Net Zero Capital Carbon Construction UIOLI). SPT made a related EAP commitment, aiming to offset emissions where repairs to leaking SF6 assets proved ineffective, and expect this to total 10,000 t/CO_2e by the end of RIIO-ET2.[42]

[42] t/CO_2e means tonnes of carbon dioxide equivalent emissions.

4.150 In our SSMD, we stated that we are open to retaining the Net Zero Capital Carbon Construction UIOLI and expanding it to all TOs, conditional to the provision of supporting governance and offsets making only a modest contribution to net zero targets (ie not exceeding 10%).

4.151 For RIIO-ET3, NGET has requested £66m for carbon compensation activities to offset embodied carbon emissions. SPT has requested £3.6m to offset 80,000 t/CO_2e, equivalent to 6% of its emissions by the end of RIIO-ET3. SHET did not make any similar request.

Consultation position and rationale

Summary of consultation position

UM type: UIOLI.

Scope: To deliver carbon compensation projects that equate to 6% of NGET's and SPT's respective annual BCF.

Delivery: NGET and SPT to develop and apply individual governance frameworks to ensure high-quality offsets.

Funding level: £9.8m for NGET, £3.6m for SPT.

Applied to: NGET and SPT.

Scope

4.152 SBTi allow for a maximum 10% of annual emissions to be offset, once an organisation has delivered 90% emissions reduction against its baseline BCF emissions level. Although no TO has achieved 90% BCF reduction in RIIO-ET2, or forecasts to do so in RIIO-ET3, we propose referencing this threshold to determine the maximum number of offsets that may be funded in RIIO-ET3. This is consistent with our SSMD position that the TOs' overall BCF targets must remain credible and involve an actual reduction in emissions.

4.153 We consider it justified to continue to fund some carbon offsetting through the price control given there will be unavoidable emissions incurred by the TOs in delivering the infrastructure required for RIIO-ET3. We also note there has been historical support from stakeholders for similar policy in both RIIO-ET2 and RIIO-ED2.[43]

[43] In the RIIO-ET2, the NGET Net Zero Capital Carbon Construction UIOLI received support from the single consumer group who responded to the Draft Determinations consultation on the matter. In RIIO-ED2, three distribution network operators offsetting EAP commitments were agreed following provision of evidence including stakeholder and/or consumer support as part of the consultation process.

Funding level

4.154 NGET requested £66m to deliver carbon compensation activities in RIIO-ET3 (£35.4m for baseline and pipeline ET projects and £30.6m for baseline and pipeline strategic infrastructure). SPT requested £3.6m to offset 80,000 t/CO_2e.

4.155 NGET's proposed cost was calculated by replicating the RIIO-ET2 Net Zero Carbon Capital Construction UIOLI methodology (with a 0.3% cost uplift). Although the uplift value remained the same, the funding request increased significantly from RIIO-ET2. This is due to the increase in total capital construction planned in RIIO-ET3 and funding request for each year of the price control instead of one. Despite this, NGET states £66m would not be expected to offset the entirety of its capital construction emissions, meaning it would no longer deliver net zero capital construction as per the policy purpose in RIIO-ET2.

4.156 We agree with NGET's view that compared to RIIO-ET2, the achievement of net zero capital construction is no longer an achievable outcome at an affordable cost, given the significantly increased levels of construction in RIIO-ET3. As such, we are proposing to change the name of the fund from the Net Zero Carbon Capital Construction UIOLI to the Carbon Compensation UIOLI, with the aim of aligning policy with SBTi guidance.

4.157 As part of this change, we propose to adjust NGET's funding level from the requested £66m to £9.8m. We have calculated this modification by:

- Using the same offsetting cost benchmark as SPT of £44.88/tCO_2, which is slightly below the average of the cost range provided by NGET in its business plan (calculated using the overall cost and output figures provided by SPT).
- Proposing a new target for NGET of offsetting 6% of its emissions in RIIO-ET3 (calculated including all BCF scopes and losses), which is within the SBTi guidance limit of offsetting up to 10% of emissions, and more closely aligned with SPT.

4.158 We consider this proposal justified as it ensures more consistent offsetting policy across the sector and limits the significantly higher costs that would be incurred by consumers if the existing RIIO-ET2 methodology was applied in RIIO-ET3.

Delivery

4.159 We expect the application of appropriate governance by NGET and SPT to ensure offsets are of high quality. In RIIO-ET2, NGET is committed to creating a governance framework for the delivery of high-quality offsets, ready for use in

RIIO-ET3. In its business plan, SPT referenced the use of Oxford Principles for Net Zero Aligned Carbon Offsetting.[44] We support the use of third-party trusted principles and propose SPT develop a similar framework to NGET to drive optimal efficiency and outcomes.

Applied to

4.160 The UIOLI would apply to NGET and SPT. SHET did not make a similar proposal.

Questions

ETQ42.	Do you agree with our proposed Carbon Compensation UIOLI to fund carbon offsetting in RIIO-ET3?

Environmental UMs we propose to reject

Low carbon construction materials and opportunities UIOLI

Background

4.161 Embodied carbon is a notable part of the TOs' BCFs and expected to increase in parallel to construction activities in RIIO-ET3. The TOs have all adopted Scope 3 emissions reduction targets and made EAP commitments to better understand and reduce embodied carbon emissions (as discussed in paragraph 3.107).

4.162 All TOs separately proposed a new common UM to reduce embodied carbon emissions by funding the use of low carbon construction materials in RIIO-ET3. Although there are some differences in the exact scope and level of detail, the Low Carbon Construction Materials and Opportunities UIOLI can be broadly split into two funding pots:

- Pot 1: Known low carbon materials - funding for any additional cost required to use low carbon construction materials that are considered economically viable, have a clear future supply chain, and address carbon hotspots (eg concrete, steel and fuel).
- Pot 2: Emerging low carbon construction opportunities - funding for programmatic initiatives, innovation-to-BAU roll-out, market stimulation, supply chain incentivisation, and other opportunities identified in-period for widely used materials that currently have no viable low carbon alternative (eg copper).

4.163 As part of its proposal, NGET proposed a third UIOLI funding pot for carbon compensation activities (ie offsetting). This is discussed with SPT's related EAP

[44] Oxford Smith School website - Revised Oxford principles for net zero aligned carbon offsetting

commitment in 4.149-4.160, as it builds on NGET's bespoke RIIO-2 Net Zero Capital Carbon Construction UIOLI.

Consultation position and rationale

Funding requested

4.164 The funding requests from each TO are summarised in Table 8 below. The table shows the high materiality of the new proposals, and variation in methodology used by the TOs to determine funding level and different UIOLI pot scope.

4.165 The TOs' proposed funding request is primarily benchmarked against the sustainability allowance granted as part of the ASTI Eastern Green Link 2 (EGL2) project assessment decision.[45] This funding allocation was equivalent to a 1.4% uplift on the overall project costs. We note that the EGL2 fund is broader in scope than the Low Carbon Construction Materials and Opportunities UIOLI proposals. Overall, we are concerned about using one Project Assessment to determine the allowance associated with the entire construction portfolio in RIIO-ET3.

Table 8: TO funding requests for the proposed Low Carbon Construction Materials and Opportunities UIOLI

	NGET	**SHET**	**SPT**
Pot 1: Known low carbon materials	0.17% capex uplift ET: £20.1m* *Allowance for strategic infrastructure to be proposed separately on a project-by-project basis.	1% capex uplift £140m	0.3% capex uplift Load: £20.93m Non-load: £1.23m
Pot 2: Emerging low carbon construction opportunities	0.93% capex uplift ET: £109.9m Strategic infrastructure: £94.9m	£0* *SHET does not differentiate between different UIOLI pots.	1.1% capex uplift Load: £76.75m Non-load: £4.43m
Total	£224.9m	£140m	£96.37m

Scope

4.166 As shown in Table 8, most of the funding request is allocated to emerging low carbon construction opportunities (Pot 2), the output and delivery of which is

[45] Eastern Green Link 2 (EGL2) project assessment decision | Ofgem

inherently more uncertain than known low carbon materials. Furthermore, although the proposals have some targets (eg NGET propose "up to 100% of low carbon concrete" and "up to 50% of low emissions steel" across the capital delivery program), funding would be allocated from a central fund when project needs are identified, meaning where and how materials will be used is not currently specified.

4.167 Regarding Pot 1: Known low carbon materials, we propose to reject the UIOLI funding request and consider that, instead, costs should be included within project/unit cost submissions, to be assessed when project-specific cost assessments at the Project Assessment stage of the Load or CSNP-F Re-openers.

4.168 Our consultation position is based on the reasoning that in-scope materials have some certainty, meaning the specific output requirements should be identifiable and therefore able to be included within project costs. This approach allows for material use to be justified by the cost and emissions reduction opportunity of each project or construction type, and grants clarity on where and how the money is used. We suggest the AER ODI-R remains an appropriate place to report on the impact of actions across the portfolio.

4.169 Regarding Pot 2: Emerging low carbon construction opportunities, we do not agree with the TO's proposals and propose to reject the funding requests. This UIOLI pot has the highest proposed materiality, yet there was relatively little specification from the TOs regarding how funding would be used. The TOs' combined justification for the funding is that:

- known materials alone may not reduce emissions significantly enough to achieve emissions targets;
- market investment is required to help increase available low carbon material options;
- some material opportunities are likely to be currently unidentifiable and to arise during RIIO-ET3; and
- portfolio level funding offers benefits that may not be achieved if costs must be project-specific.

4.170 Our consultation position is based on the reasoning that:

- Current uncertainty is high, risking poor consumer value unless appropriately governed, with little evidence provided on how this may be achieved;

- It is not clear how the funding requests, given their primary reference to EGL2 funding allocation, are tied to the needs case of SBTi emissions targets or specific embodied carbon targets;
- Where new low carbon materials become viable for use in RIIO-ET3 they can be incorporated into projects as BAU, updated project costs, or during re-opener submission;
- The benefits of portfolio level funding are unclear given a lack of identified projects, and if they were, innovation funding routes (ie NIA or SIF) may be more appropriate; and
- We do not consider it represents consumer interests to increase the cost burden to stimulate markets in this area given the already significant project costs.

Carbon Border Adjustment Mechanism (CBAM) re-opener and/or pass-through

Consultation position and rationale

4.171 SPT proposed a re-opener and SHET proposed a pass-through to cover uncertainty in how new UK Carbon Border Adjustment Mechanism (CBAM) legislation may impact allowances agreed prior to it coming into effect in January 2027.[46] The re-opener would be triggered once it is clear what, if any, the materiality of impact is and enable the TO to recuperate any costs not accounted for in previously agreed allowances. Similarly, the pass-through would automatically remunerate the TOs for any extra costs incurred on allowances agreed, prior to it coming into effect.

4.172 We agree there is uncertainty regarding the impact of CBAM legislation on the TOs. This applies to the potential materiality of any impact, where any cost impact is reflected in the supply chain, and how CBAM is accounted for in pre-existing inflationary measures in the price control (ie Real Price Effects). Given the above, we believe there is a risk of double-counting if a pass-through were to be introduced. We propose that once the impact of CBAM is clearer, the Net Zero Re-opener can be triggered if required.

[46] A CBAM aims to ensure equal treatment of domestic and imported goods by applying a charge to carbon emitted during the production of imported carbon-intensive goods. The UK CBAM will place a carbon price on some of the most emissions-intensive industrial goods imported to the UK from the aluminium, cement, ceramics, fertiliser, glass, hydrogen, iron and steel sectors. The UK CBAM is still in development and will come into effect in 2027.

ETQ43.	Do you have any views on our proposal to reject these two environmental UMs?

Secure and resilient supplies

Non-Load Re-opener

Purpose: To enable TOs to request adjustments to their baseline allowances for non-load projects that face uncertainties relating to needs case, optioneering or costs.

Benefits: Provides flexibility for TOs to deliver at pace, whilst protecting the consumer from unnecessary costs, for those projects where the needs case, optioneering or costs are subject to uncertainty.

Background

4.173 As part of their business plans, TOs proposed the introduction of additional RIIO-ET3 non-load UMs to support the NARM mechanism in delivering network resilience, citing gaps in the current regulatory framework. They asserted that, despite the presence of the NARM mechanism, there remain potential non-load investment needs in RIIO-ET3 that are not adequately captured, including:

- Shared drivers where load need is no longer no longer justified: TOs have identified projects initially driven by both load and asset health needs, where the load driver may fall away over time. They highlighted these projects often involve a mix of NARM and non-NARM assets, complicating funding and delivery arrangements.
- Development proposals that do not align with RIIO business plan timelines: some TOs have claimed that they have proposed development work that does not align with RIIO business plan timelines, including complex, site-constrained projects aimed at enhancing network resilience and reliability.
- Emergent issues during the price control: TOs have raised the need to address emergent issues within the price control period, such as the trial of SF6 gas recovery technology, which may require bespoke funding and assurance mechanisms to protect asset integrity.
- Non-NARM assets requiring intervention: TOs have highlighted operational risks associated with non-NARM assets, including non-lead assets, for which there is currently no dedicated funding route under the existing framework.

- High-volume, lower-cost interventions, with a broadly no repeatable unit cost of delivery: One TO notes that while the RIIO-T2 framework supports repeatable, lower-cost interventions, the current Mechanistic PCD does not accommodate pipeline delivery, risking underfunding of essential work.
- Delayed projects spanning RIIO-ET2 and RIIO-ET3: TOs have expressed concern that some NARM projects scheduled for RIIO-ET2 may be delayed into RIIO-ET3 due to factors such as supply chain issues and outage constraints. They argue that the fixed end-of-period deadline for RIIO-ET2 presents delivery challenges for larger, more complex projects.

Consultation position and rationale

Summary of consultation position

Scope: Projects that at one time had both load and non-load drivers, where the load driver is no longer required but the non-load driver remains valid.

Materiality threshold: 0.5% of ex ante base revenue.

Number and date of re-opener windows: Two application windows during the price control – April 2028 and April 2030**.**

Ability for Authority to trigger re-opener: Yes.

Application requirements: Assessment will require TOs to demonstrate that the non-load needs case would have existed independently of the original load driver, supported by counterfactual analysis.

Applied to: All TOs.

Need for a non-load UM

4.174 We recognise that the scope of RIIO-ET3 non-load investments increasingly overlaps with load-driven projects. CP2030 and connections reform have introduced new prioritisation criteria, which could potentially lead to some load projects falling away. We recognise this could create scenarios where only the asset health components remain, necessitating a funding route outside of traditional load mechanisms.

4.175 As such, we consider that there is a need for a non-load UM to manage these uncertainties.

4.176 In assessing how best to address the funding gap for asset health works where load drivers fall away, we considered a range of potential solutions.

Options considered

4.177 One option would be to rely solely on the existing NARM mechanism. This would allow companies to manage risk through internal trade-offs and submit any non-load NARM investments as 'Clearly Identifiable Over-Deliveries' at the end of RIIO-ET3. However, we believe this risks leaving known poor-condition assets on the network, particularly where non-NARM assets are involved and no alternative funding route exists.

4.178 Another option would involve providing baseline funding for the asset health scope of shared driver projects, with a 'top-up' mechanism for any additional load-related works. This could be implemented through a mechanistic or evaluative PCD. While this approach could accommodate both NARM and non-NARM assets, it would require a high degree of certainty in the scope of work required, and therefore in the TOs' ability to accurately scope and justify non-load needs. At present, the evidence base, in terms of counterfactuals and EJPs, is insufficient to support this level of confidence.

4.179 We also considered a dual-PCD approach, where both the load-related and asset health components of a project would be assessed ex ante and awarded separate evaluative PCDs at the start of the control. If the load driver subsequently fell away, the corresponding PCD would be closed, and the asset health works could proceed without delay. This model offers flexibility and early certainty but introduces complexity in administration and a risk that consumers could fund uprating works prematurely. Moreover, TOs have indicated they would require additional time to prepare comprehensive EJPs covering both scenarios.

4.180 Our preferred option is the introduction of a Non-Load Re-opener. This would be a tightly defined, in-period mechanism triggered by the licensee or us, when a load driver is no longer required and a pre-identified asset health need remains. It would allow for a full assessment of the need case, including cost efficiency and benefit justification, before funding is awarded. This approach can accommodate both NARM and non-NARM assets and ensures that funding is only provided where there is clear evidence of value to consumers. We consider it strikes the right balance between flexibility, accountability, and consumer protection.

4.181 However, we do not consider that the following areas proposed by TOs are uncertainties that need managing:

- High-volume, lower-cost interventions and development proposals that do not align with RIIO business plan timelines: We consider that many of these interventions fall within the scope of BAU activities that TOs are expected to manage within their baseline allowances. These types of risks are not new, and we have not seen compelling evidence to suggest that the nature or scale of these issues has changed materially during RIIO-ET2.
- Non-NARM assets requiring intervention: We consider that the rationale set out above applies equally to these proposals, ie that many of the interventions identified fall within the scope of BAU activities that TOs are expected to manage within their existing baseline allowances. In cases where TOs have identified non-NARM assets requiring intervention, and where those assets are associated with a load driver that is no longer required, we would expect the associated asset intervention to be addressed through the Non-Load Re-opener mechanism, as described above.
- Emergent issues during the price control: We consider that many of the issues raised under this category are likely to fall within the scope of BAU activities that TOs are expected to manage through their baseline allowances. However, one specific issue we accept merits addressing relates to the submissions proposing a trial of SF6 gas recovery technology at substations where the associated equipment is already included within the baseline. We acknowledge the potential value of such trials in enabling TOs to assess the technical viability of new solutions and their compatibility with existing operational and equipment arrangements. Where TOs seek funding for such initiatives, we would expect them to provide assurance that the deployment of the technology will not compromise the integrity or performance of high-value assets. In particular, TOs must demonstrate how the proposed intervention aligns with their asset management frameworks and how it is expected to deliver improved outcomes. Subject to the success of initial trials, we propose these additional trials could be progressed through the baseline SF6 Asset Intervention PCD, and as such would not be covered under this Non-Load Re-opener.
- Delayed projects spanning RIIO-ET2 and RIIO-ET3: We are committed to ensuring that all efficient and well-justified investments are appropriately recognised and not overlooked within, or across, regulatory periods. We expect TOs to fully utilise existing mechanisms, which we consider sufficient to fund the vast majority of non-load interventions. For example, regarding the NARM mechanism and the treatment of projects spanning regulatory

periods, our position is that these should be treated like any other form of over- or under-delivery and managed through the existing NARM framework. While we acknowledge TOs' concerns that some delays may result from factors beyond their control, we are of the view, based on engagement with TOs, that these are expected to cause only minor delays, with full delivery of outputs still intended. TOs have not provided sufficient detail on the likelihood of such delays. Without clear visibility of which projects are at risk and why, we will not consider re-openers to address this. Instead, for NARM projects we are introducing a reporting mechanism into the RRP, starting in 2025, allowing TOs to flag specific projects at risk of delay. Any remaining gaps will be considered as part of the RIIO-ET2 close out or through RIIO-ET3 mechanisms.

Re-opener design

Materiality threshold

4.182 We propose that the Non-Load Re-opener should use the default RIIO-3 materiality threshold. Adjustments to allowed revenue will only be made where we determine that the proposed adjustment, when multiplied by the applicable TIM rate, exceeds 0.5% of the licensee's average annual ex ante base revenue.

4.183 We consider this appropriate as TOs should use their baseline allowances and the TIM to cover low materiality, non-NARM interventions for which they have not planned.

Number and date of re-opener windows

4.184 We propose two re-opener windows for TO submissions related to non-load projects with shared drivers, in April 2028 and April 2030.

Ability for Authority to trigger re-opener

4.185 Whist we consider that this re-opener relates to areas where TOs will have the best understanding of when an intervention is required, we believe that we, as well as TOs, should be able to trigger this re-opener where the NESO alerts us to issues that need addressing.

Application requirements

4.186 TOs will be required to demonstrate that the non-load driver was planned for independently of the associated load driver. This includes providing counterfactual assessments and/or EJPs that were developed when the load-driven works were originally considered. These should be used to justify the

proposed non-load intervention, including the needs case and associated costs. We expect TOs to include the following in their application:

- the named load project with which the non-load driver was originally associated;
- counterfactual assessments and/or EJPs that demonstrate the non-load needs case would have existed in the absence of the load driver, including where relevant, NARM justification;
- a short list of options, derived from a longer list of all options considered;
- the preferred solution and supporting narrative explaining the rationale for selection;
- cost estimates; and
- proposed delivery year.

Questions

ETQ44.	Do you agree with our proposal to introduce a Non-Load Reopener to address funding gaps in shared-driver projects where the load-related need no longer exists, but an asset health requirement remains?
ETQ45.	Do you agree with our proposed design of the Non-Load Re-opener?

5. Cost of service

5.1 A key part of RIIO-ET3 is setting baseline allowances for the three TOs. The objective of cost assessment is to ensure that these allowances reflect an efficient level of costs that enables TOs to carry out their activities and deliver an appropriate level of outputs for consumers.

5.2 In our SSMD we highlighted the importance of developing a robust toolkit to ensure that the outcome of cost assessment reflects a balance between the protection of existing and future consumers (by incentivising efficient, well-justified expenditure) and not being a blocker to the pace needed to deliver net zero (by settling a funding framework that provides both certainty and adaptability to the TOs). We also noted the challenges deriving from the presence of multiple mechanisms to fund load related investments such as the risk of potential overlaps, inconsistencies and duplication; the recent workforce and supply chain pressures; and the relevance of historical information in a changing environment such as the ET sector.

5.3 For RIIO-ET3, as in RIIO-ET2, we propose to use a toolkit of methodologies to assess the different categories of costs that make up totex. While developing our approach, we followed the principles for cost assessment set out in our Framework Decision and Sector Specific Methodology Consultation (SSMC), and evolved the RIIO-ET2 approach by improving the robustness of the existing methodologies. We have also sought opportunities for simplification wherever possible. Overall, we consider our approach strikes a balance between incentivising cost efficiency and enabling the investment needed to deliver net zero.

5.4 In developing our approach, we have used information drawn from:

- TOs' business plans;
- responses to SQs;
- stakeholders' feedback from our SSMC;
- engagement with TOs at cost assessment working groups (CAWGs); and
- independent reviews and reports.

5.5 Table 9 and Table 10 show the adjustments we made to submitted costs and the proposed baseline allowances for each TO, together with submitted baseline totex, and the corresponding differences. The three TOs submitted £15.9bn of baseline totex, from which we removed costs not subject to the RIIO-ET3 cost assessment process; these are referred to as excluded costs and include costs that will be assessed through routes other than RIIO-ET3 (eg ASTI and part of

RIIO-ET2 carry-over). We also added to the baseline some costs reported under the RIIO-ET2 period which pertained to RIIO-ET3. This resulted in an overall adjustment to submitted costs of £2.7bn, bringing baseline submitted costs from £15.9bn to £13.2bn.[47] Moreover, where we considered that a certain decision on allowances is better made closer to the time costs are incurred, we moved some baseline costs to UMs (eg property or categories of indirects).[48] The exclusion of these costs further reduced TOs' submitted baseline requests to £12bn, which was the basis of our assessment. Our cost assessment process resulted in proposed baseline allowances of £8.9bn, representing a reduction of £3.1bn (26%) from submitted costs after exclusions (£12bn). This reduction is the result of:

- needs case assessment (£1.3bn): whilst in most instances we understand the need for the investment, the information received to date was not sufficient to enable us to set allowances. As part of the consultation process, we expect to receive further evidence from the TOs;
- cost efficiency adjustments, reflecting our efficiency assessment of each cost area using quantitative and qualitative tools; and
- our ongoing efficiency challenge (1% per annum).

5.6 Submitted and proposed totex presented in this chapter are exclusive of Real Price Effects (RPEs). Proposed totex also do not include UIOLI allowances or pass-throughs. We excluded UIOLI allowances because the two most material ones (ie load and closely associated indirects) were calibrated on costs submitted via UMs.[49] See company annexes for details on overall ex ante funding for each TO.

5.7 The proposed baseline allowances in this chapter are based on our assessment of the data and information provided in the business plan submissions and subsequent engagement. These allowances are subject to change through this consultation process, especially if updates to that data and information enable us to identify improvements to our modelling. For example, ahead of Final Determinations we expect to review the assumptions we made in some cost areas to account for the different approaches taken by the TOs.

[47] The list of exclusions has been provided to each TO separately.
[48] In some cases, uncertain costs will be settled through a re-opener process. In others, TOs will still have immediate access to funding via UIOLI allowances.
[49] Once UIOLI, volume drivers and pass-throughs are taken into account, ex ante funding for the TOs increases by around £6bn.

Table 9: Summary of impact of exclusions on submitted totex (£m, 2023/24 prices)

TO	RIIO-ET3 submitted	Costs outside RIIO-ET3	Baseline costs moved to UMs	RIIO-ET3 submitted after exclusions
	£m	£m	£m	£m
NGET	9,177	2,804	546	5,827
SHET	4,594	-25	478	4,141
SPT	2,122	-59	110	2,071
ET Sector	**15,893**	**2,720**	**1,134**	**12,039**

Table 10: Totex breakdown of our cost assessment approach by TO (£m, 2023/24 prices)

TO	RIIO-ET3 submitted after exclusions	Needs case assess.	Cost efficiency adjust.	Ongoing Efficiency	DD proposed totex	Difference	Difference
	£m	£m	£m	£m	£m	£m	%
NGET	5,827	1,116	246	217	4,249	-1,579	-27%
SHET	4,141	195	718	154	3,074	-1,067	-26%
SPT	2,071	3	401	78	1,589	-483	-23%
ET Sector	**12,039**	**1,314**	**1,366**	**449**	**8,911**	**-3,128**	**-26%**

5.8 The remainder of this chapter sets out the specific approach we have taken to the assessment of the cost categories making up totex, namely load and non-load capex, non-operational capex, network operating costs (NOCs), indirect costs and other costs. This chapter also covers aspects of the engineering assessment, as well as the TIM and our approach to assessing Stage B of the BPI for RIIO-ET3. For our proposed approach to RPEs and ongoing efficiency, see Chapter 8 of the Overview Document.

Load and non-load capex

Background

5.9 Load capex relates to investment to expand current network capacity or to connect with new generation or demand sources. Non-load capex relates to investment to maintain the health of the existing asset base.

5.10 When projecting their load and non-load capex, TOs typically include additional costs for Risk and Contingency (R&C). These costs account for additional

expenditure which may be incurred due to events outside of the TOs' control, such as adverse weather conditions.

5.11 At RIIO-ET2, we used a toolkit approach to establish efficient costs for each TO. For load and non-load capex, this involved reviewing needs cases, followed by efficiency analysis of assets using either unit cost benchmarking or engineering review. These views were reflected in the PAM which generates overall cost allowances.

5.12 For SPT and SHET, the available data allowed for a comparative assessment. For NGET, due to data quality issues, we performed a more holistic assessment for each element of NGET's submission.

5.13 In respect of R&C, at RIIO-ET2 we provided all TOs with the requested allowances for non-asset elements of their R&C costs, up to a cap of the average level of their requested R&C allowance. For asset-related R&C, we took a bespoke approach for each TO.

5.14 For SPT and SHET, where asset unit costs were calculated using historical data, we rejected R&C requested allowances as we deemed the historic costs already accounted for embedded risk. However, where asset unit costs were informed by tendering frameworks, we allowed R&C submitted costs in full as these were deemed to not contain any embedded risk.

5.15 For NGET, we applied the same approach for asset-related risk costs based on historical data where separate R&C costs had been identified. We then applied a 5% reduction across lower-confidence elements of NGET load and non-load capex outputs from the PAM. The resulting R&C allowances averaged 7.5% across the RIIO-ET2 load and non-load portfolio. To maintain a consistent approach, this 7.5% R&C allowance was also applied to all re-opener applications in the RIIO-ET2 period, including the MSIP re-opener.

5.16 In our RIIO-3 SSMD, we maintained that we would broadly continue to use a toolkit approach for the cost assessment of load and non-load capex. This would include retaining unit cost benchmarking (where viable) and engineering reviews, along with potentially including market tested data to make unit cost assessment more robust where historical costs may be less appropriate.

5.17 In our SSMD, we stated that R&C allowances would be considered in the context of other existing risk management mechanisms, to avoid potential duplication.

5.18 In RIIO-ET2, baseline allowances for load capex amounted to around £3bn, while for non-load capex they amounted to around £3.8bn, representing 27%

and 35% of total baseline allowances respectively. The TOs primarily forecast underspends relative to allowances across both cost categories, ranging from 5% to 33%, but one TO is on track to record a minor overspend of 3% on their non-load capex.[50]

5.19 For RIIO-ET3, the TOs submitted baseline costs (before any exclusions) for load capex of £3.1bn, a 3% increase from the RIIO-ET2 allowance. They also requested £2.8bn of non-load capex, amounting to a 28% decrease from the RIIO-ET2 allowance. However, it must be noted that NGET is driving the increase of load capex spend for the sector. The other TOs have requested minimal to no baseline allowances for load capex, instead opting to request funding for their load capex schemes predominantly through UMs. Therefore, comparisons with RIIO-ET2 in ascertaining sector activity and growth for RIIO-ET3 should account for this shift in funding patterns.

Consultation position and rationale

Summary of consultation position

Load and Non-Load Capex: Needs case assessment followed by a combination of unit cost benchmarking and engineering review. Within the unit cost benchmarking, we propose to roll-up benchmarks to the scheme level.

R&C: Allowance of 5% of a scheme's direct costs if the associated risk costs are above £100k. R&C requests allowed in full for risk costs at £100k and below.

Rationale

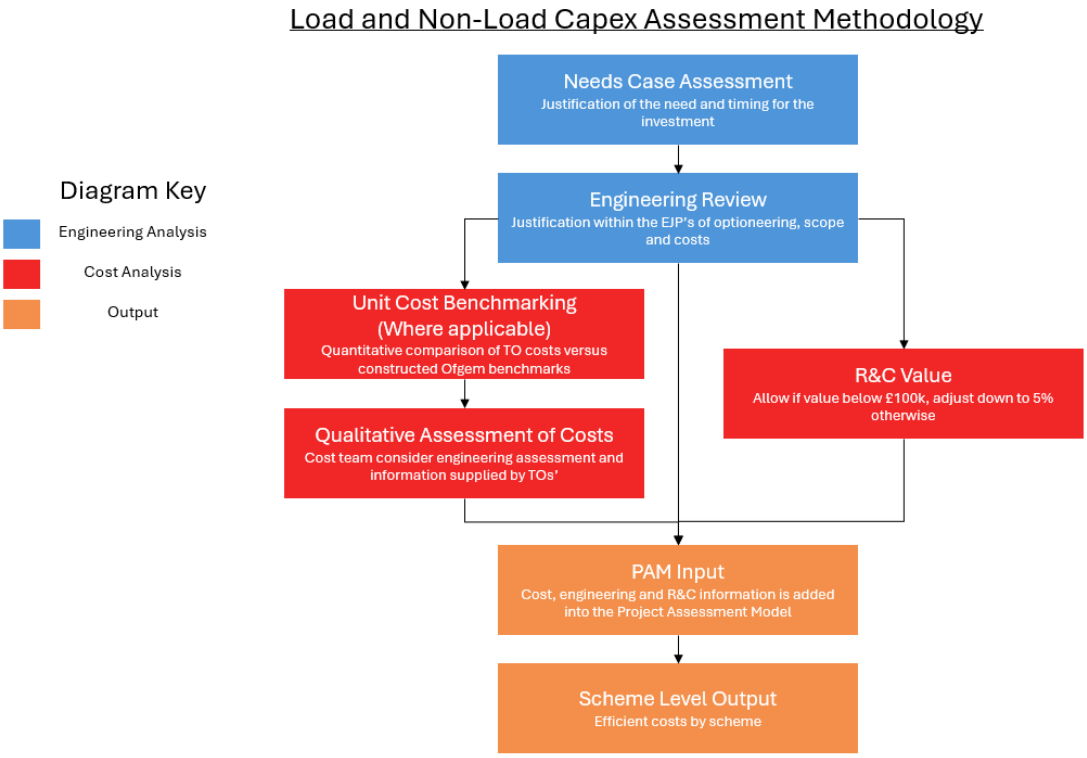
Load and non-load capex

5.20 As in RIIO-ET2, for RIIO-ET3 we have relied on the engineering review of the EJPs as the basis for our assessment of load and non-load capex, combining it with unit cost benchmarking. We used the PAM to combine engineering views on projects and volumes, with the assessment of unit costs and risk.[51] Figure 6 below summarises our assessment approach.

[50] Appendix to the RIIO-2 Electricity Transmission Annual Report: 2023-24 https://www.ofgem.gov.uk/sites/default/files/2025-04/RIIO-2%20Electricity%20Transmission%20Annual%20Report%202023%20to%202024%20-%20appendix.pdf

[51] We have looked to evolve the PAM from RIIO-ET2. Where possible, we have simplified the model to increase its transparency, remove unused features and increase engagement with the TOs to improve their understanding of the model. We propose to continue the use of the PAM to synthesise these different areas of load and non-load capex assessment. Whilst maintaining the use of the PAM, we will aim to keep streamlining.

Figure 6: Load and non-load capex assessment methodology overview flowchart



5.21 For RIIO-ET3, we have incorporated the lessons learned from RIIO-ET2, and codified the outcomes of the engineering assessment to improve clarity and transparency of our models by creating specific outputs based on potential outcomes of the engineering assessment. For example, an unjustified needs case or unjustified optioneering would mean a scheme is rejected, and TOs would not receive funding for that scheme. We have also expanded the use of engineering and technical expertise to better ensure the efficiency assessment is corroborated from a technical perspective, and as a check on outputs from the codified outcomes. For an overview of the engineering assessment, see below in this chapter and the company annexes.

5.22 The engineering review generated two types of outcomes:

- Codified outcomes - these include needs case reviews and volume adjustments, as well as an indication of which schemes are better suited for a re-opener, PCD and UIOLI.
- Qualitative information - information that would support the qualitative review of costs. For example, flags for high costs for assets, high level of risk or where projects had indirect costs.

5.23 For our unit cost benchmarking, to assess the cost of individual assets within a project, we calculated benchmarks using relevant data from TOs' submissions

and based on the Ofgem Asset Possibility (OAP)[52] list, with separate benchmarks for different interventions (eg new build, replacement, major refurbishment).

5.24 Where data availability and consistency made it possible, we calculated the benchmark using a combined dataset from RIIO-ET2 actual and forecast data, as well as RIIO-ET3 forecast data. Using data from two periods has helped exploit a bigger dataset and, in turn, increased the amount of submitted costs subjected to benchmarking.

5.25 There are instances, however, where this was not feasible due to data availability, or not viable due to cost volatility. Some of this cost volatility is visible between the RIIO-ET2 and RIIO-ET3 periods, potentially due to recent market volatility and macroeconomic events. Where this is the case, we have used forecast data from the RIIO-ET3 period only to calculate the benchmark. Where assets and non-assets lacked a sufficiently robust dataset to derive any benchmark, we have conducted a bespoke review of costs and supporting evidence to establish a view on efficient costs, including reviewing the submissions of market tendered costs. We considered the use of engineering assessment to select, where possible, between benchmarks. However, this process was deemed to add too much complexity and potentially reduce transparency. For these reasons, we opted for selecting benchmarks based on dataset robustness. Overall, 11% of non-risk costs were benchmarked against RIIO-3 benchmarks, 31% were benchmarked against RIIO-ET2 and RIIO-ET3 benchmarks and 58% were qualitatively assessed.[53]

5.26 In contrast with RIIO-ET2, we have not taken the lower of the benchmarks between the RIIO-ET2 and RIIO-ET3 periods. This is because, particularly given the recent macroeconomic events, we considered it important to account for potential high volatility across periods. We therefore used the whole time series where volatility was not a concern, whilst using RIIO-ET3 data only where there were concerns that there has been a structural break across periods, or where RIIO-ET2 data was not available. To note, we have not used RIIO-ET2 data standalone for the assessment because of concerns of data not being fully reflective of costs for the RIIO-ET3 period. We have only used it in combination with RIIO-ET3 data when considered appropriate.

[52] The OAP list is a classification list developed with the TOs throughout RIIO-ET2 to foster more consistent reporting.
[53] These figures do not include risk, and consider all submitted costs, regardless of final engineering approval.

5.27 Submitted costs from the TOs for each benchmarked asset varied significantly. To simplify the assessment approach, for assets with less than a £3m combined ask by TOs we maintained robustness in the approach but undertook a lighter-touch assessment where this was justified and where it had immaterial impact on consumers.[54] For benchmarks corresponding to a combined ask greater than a £3m, we completed a deep-dive review, with greater scrutiny of the dataset on a case-by-case basis, while prioritising assets with lower data availability and higher cost materiality. We considered this the best way to meet our SSMD principles of focusing the regulatory effort on areas of most importance, whilst also reducing assessment requirements elsewhere. We aim to refine this process ahead of our Final Determinations.

5.28 We have set the benchmark at the scheme level.[55] Specifically, we have rolled up the disaggregated benchmarks to define a benchmark for each scheme. Where TOs' scheme-level submitted costs are lower than our benchmark, we have allowed the cost for the scheme in full. Where TOs' submitted costs are higher, we have used our independent benchmark to set efficient costs.

5.29 This is different to the approach at RIIO-ET2, where we set the benchmark at the individual asset level. We consider the roll-up of unit cost benchmarks an appropriate way to account for data volatility and make the outcome of cost assessment more robust. This is also in line with our SSMD intent to factor in market volatility. Another method we considered was to use asset categories, which could also make our analysis less sensitive to volatility in the data.[56] We also considered setting benchmarks at a portfolio level (ie the entire request from TOs). However, we consider this level of aggregation for load and non-load capex would weaken TOs' incentive for cost efficiency due to allowances being no longer reflective of efficiency at the activity level, which we think is relevant for the assessment of these costs. Despite the roll-up of benchmarking, we will keep the same granularity in reporting as in RIIO-ET2. This is because the granularity is important for consistency, building larger and more robust datasets for future assessment, and creating more accurate benchmarks while

[54] The choice of £3m was considered appropriate to balance a proportionate use of resource with materiality of costs.
[55] Schemes are individual constituent elements of a project. Each scheme will refer to a planned engineering activity that is intended to achieve a distinct and measurable purpose. The purpose will be electrical in nature (eg MW) and/or physical in nature (eg construction of new assets, overhead line or underground cable).
[56] As opposed to looking at all assets individually, looking at the cost of all assets of a category combined versus the benchmarked cost of that number of assets.

also providing flexibility for an assessment to consider contextual factors, such as market volatility.

5.30 In our SSMD, we suggested we could allow competitively tendered costs subject to needs case approval. However, we found the implementation challenging. The primary challenge we faced was in assessing the comparability of the tendered costs between TOs. The secondary challenge was in contrasting the tendered costs against other benchmarked costs. This was due to each TO utilising different structures of asset components in their scheme lifecycle. We received inputs from TOs in an attempt to reconcile the separate asset components to the breakdown we used in the BPDTs and the annual reporting, but we did not consider it robust to utilise this approach to set allowances.

Risk and Contingency

5.31 We reviewed each TO's approach to R&C using information from the business plan submissions, while also taking into account applicable EJPs and SQ responses.

5.32 We found significant variance in the approaches taken by each TO in terms of costing methodology, manifesting in high variance of the requested risk costs. Broadly, we noted very limited justification within EJPs for particularly large risk costs, with minimal justification for the quantum of these costs. We also observed inadequate detail on how TOs sought to take a proactive stance on risk identification, mitigation and management.

5.33 TOs' costing methodologies were primarily based on outturn data, but were occasionally supplemented using a first-principles approach for various aspects of the project process such as construction. We found that each TO also interpreted and included different risk sources in their methodologies, thus lowering the degree of comparability. While we acknowledge the work undertaken by TOs on their methodologies, we note they broadly applied a one-size-fits-all approach for their portfolios, evidenced by the small number of instances where variance for projects occurred within-methodology due to project maturity.

5.34 In developing an approach to setting R&C allowances for RIIO-ET3, we considered similar energy infrastructure regimes across the UK and in Europe and Australia, reviewed alternative mechanisms to an ex ante allowance and explored the viability of the approach established in RIIO-ET2 and within the MSIP regime.

5.35 When exploring other regimes, we noted that there was no common position for the handling of risks that are primarily categorised under the R&C definition as in RIIO-ET2.[57] While some regimes did provide an ex ante allowance, there were also findings that supported the use of UMs, such as a re-opener. We noted that the Australian regime used an incentive sharing mechanism to avoid undercompensating regulated networks for any incurred R&C costs, while limiting potential overcompensation.

5.36 We considered the use of a re-opener as well as a UIOLI fund, but discarded these options due to regulatory complexity, lack of regulatory certainty for TOs at the outset of project start, and overall increased regulatory burden.

5.37 When looking at potential assessment approaches for R&C, we considered the interactions with the TIM and the proposed changes for RIIO-ET3 (more detail can be found later in this chapter). While the changes to the TIM and newly proposed mechanisms may not directly affect potential R&C costs from arising for individual projects, they are aimed at reducing the risk of the overall project portfolio. Therefore, we did not deem it necessary to provide an R&C allowance based on the TOs' costing approaches. For the purpose of holistic project risk consideration, we consider that a stepped TIM would protect TOs where they have encountered extremely high-cost events which were outside of their immediate control as they would likely be compensated completely. We think this also balances the need for regulatory certainty with the perceived downside of not providing as high an R&C allowance as in RIIO-ET2. Moreover, we note that the schemes subject to this assessment are only those for which TOs have requested ex ante allowances, ie schemes which the TOs consider to be characterised by high cost certainty. This is a relatively small share of schemes, considering that TOs have requested most, if not all, of the load capex funding through UMs on the account of cost uncertainty.

5.38 The RIIO-ET2 approach exhibited a less complex means for implementation. However, the approach used to determine the R&C methodology did not allow for us to account for the developments in the RIIO-ET3 regime noted above. Particularly, the methodology did not explicitly take into account the impact of the TIM on spending outcomes. Therefore, there would be a degree of overlap of our policy tools if we were to adopt the RIIO-ET2 approach in its current form,

[57] RIIO-2 Final Determinations Electricity Transmission System Annex (REVISED) https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_annex_revised.pdf

with the established average risk values due to the significant changes being proposed for the TIM.

5.39 Acknowledging that there is some degree of project risk that cannot be reasonably minimised, mitigated or insured in a timely manner, we have retained an ex ante allowance for risk costs, set at 5% of the scheme's direct costs if the associated risk costs are higher than £100k. We will allow TOs' requested risk costs when these are lower than £100k.

5.40 We have set the £100k threshold to allow in full some R&C costs associated with a scheme allowance. This acknowledges that there will be some degree of project risk present but allows us to simplify the methodology while focusing on more material areas. The setting of this threshold results in allowing 69% of the total R&C submitted requests by the three TOs, constituting approximately 7% of the total R&C value requested, subject to the scheme being approved by the engineering assessment.

5.41 Where an R&C request exceeds £100k, we will set an allowance proportionate to the associated scheme's total cost, as was done in RIIO-ET2. In selecting a proportionate value, we consider that our proposals for RIIO-ET3 de-risk multiple elements of the procurement and construction process, owing to a need for a lower value compared to what we granted in RIIO-ET2 and MSIP. We have, therefore, set the allowance value of qualifying R&C requests at 5% of direct costs of the scheme. We will be closely monitoring the outcomes of this change through the subsequent annual regulatory reporting process.

5.42 Table 11 and Table 12 show our proposed modelled costs for load and non-load capex (inclusive of risk and contingency costs) against the TOs' baseline submissions (after exclusions).

Table 11: Load capex modelled costs (£m, 2023/24 prices)

TO	**RIIO-ET3 submitted**	**DD modelled**	**Difference**	**Difference**
	£m	£m	£m	%
NGET	340	244	-96	-28%
SHET	-	-	-	-
SPT	34	28	-6	-16%
Total	**374**	**272**	**-101**	**-27%**

Table 12: Non-load capex modelled costs (£m, 2023/24 prices)

TO	**RIIO-ET3 submitted**	**DD modelled**	**Difference**	**Difference**
	£m	£m	£m	%
NGET	1,610	1,002	-608	-38%
SHET	1,394	1,185	-209	-15%
SPT	500	461	-39	-8%
Total	**3,504**	**2,649**	**-856**	**-24%**

ETQ46. Do you agree with our proposed approach to load and non-load capex assessment, ie the combination of unit cost benchmarking and engineering review? How can the use of expert assessment be further improved?

ETQ47. Do you agree with our approach for unit cost benchmarks? Do you have any views on how the unit cost benchmarking methodology can be improved?

ETQ48. Do you agree with our proposal to roll-up unit cost benchmarks and set the benchmarks at the scheme level?

ETQ49. Do you agree with our continued use of the PAM? How can this be further improved?

ETQ50. Do you agree with our proposed approach for setting the R&C allowance? If not, why? Please outline any challenges that you think might be present with our proposals on the R&C allowance and the interplay with the TIM.

Non-operational capex

Background

5.43 Non-operational capex relates to assets not directly connected to the network but which support the general functioning of the business. These costs comprise the following three categories: Vehicles and Transport, Non-Operational Property, and Information Technology and Telecoms (IT&T).

5.44 Vehicles and Transport is expenditure on new and replacement wheeled vehicles and generators which are not system assets but which are utilised by the TO or any other related party for the purposes of providing services to the TO.

5.45 Non-operational Property is expenditure on new and replacement property assets which are not system or operational assets. It includes premises used by people (eg stores, depots and offices) which are not operational premises (eg substations), as well as office equipment.

5.46 IT & Telecoms (Non-Operational) is expenditure on new and replacement IT assets which are not system assets. These include Hardware and Infrastructure and Application Software Development.

5.47 At RIIO-ET2 for Vehicle and Transport costs, we used a historical trend model based on RIIO-ET1 actual incurred costs for non-electric vehicles. We then multiplied the model's output by the proportion of the fleet that is not being replaced with EVs. For the EV element, we multiplied our view of the proposed volumes by an appropriate EV unit cost based on our review of the companies' submissions.

5.48 At RIIO-ET2 for Property and Small Tools Equipment Plants and Machinery (STEPM) costs,[58] we examined the historical run rates for spend over the RIIO-ET1 period and performed ratio analysis against Modern Equivalent Asset Value (MEAV) and capex to establish baseline requirements. This was supplemented by a review of specific non-operational property funding requests where these were separately presented by the TOs within their EJPs.

5.49 We relied on expert review for the assessment of IT&T costs at RIIO-ET2. This assessment reviewed the strength and traceability of the IT proposals against four criteria: robustness of project justification, credibility of planning, understanding, and deliverability of resource definition, and efficiency and

[58] Following discussions in CAWGs, STEPM has been moved to the NOCs other category for RIIO-ET3. For our assessment of NOCs other, see paragraph 5.62 onwards.

certainty in costing. The outcome of this assessment determined the level of ex ante allowances and identified the projects eligible for future re-openers.

5.50 In our SSMD, we signalled our intention to supplement historical run-rate analysis and ratio benchmarking with a review of associated EJPs and Cost Benefit Analyses (CBAs) for Vehicles and Transport and Non-operational Property. We noted that IT&T costs would likely require expert review and stated we would continue to develop an assessment framework for this.

5.51 In RIIO-ET2, non-operational capex allowances amounted to £0.5bn, ie 4% of total baseline allowances. Two TOs anticipate an underspend of 19% and 12% relative to their allowances across RIIO-ET2 while one TO anticipates an overspend of 53%.[59]

5.52 For RIIO-ET3, TOs submitted a baseline allowance request of £1.6bn, a sharp increase of 257% against their RIIO-ET2 allowance. The main driver for this is a large increase in Non-operational IT&T costs.

Consultation position and rationale

Summary of consultation position

Vehicles and Transport and Non-operational Property: Qualitative assessment based on review of associated EJPs and CBAs.

IT&T: Expert review of the vast majority of submitted EJPs. For projects with no EJPs associated, apply same average percentage of allowed expenditure as for a TO's projects subject to expert review.

Data & Digitalisation:[60] See Chapter 11 of the Overview Document.

Rationale

Vehicles and Transport and Non-operational Property

5.53 We have now based our assessment of Vehicles and Transport and Non-operational Property solely on our review of the associated EJPs and CBAs. Further analysis of business plan submissions showed that historical costs are not reflective of RIIO-ET3 forecasts. Vehicles and Transport have increased due to further electrification of the fleet for NGET and the significant increase in Non-operational Property costs has been primarily driven by rising workforce

[59] RIIO-2 Electricity Transmission: Annual Report 2023 to 2024 https://www.ofgem.gov.uk/publications/riio-2-electricity-transmission-annual-report-2023-2024

[60] Data & Digitalisation costs were submitted within the Non-operational Capex BPDT table but we assessed these costs separately. The definition and approach taken to these costs is set out in the Overview Document.

demands. Moreover, EJPs were submitted to support all costs in these areas so we considered it appropriate to base our assessment fully on the engineering review of these costs, some of which were supplemented by CBAs. In line with the cost assessment principles laid out in our SSMC,[61] we consider that, wherever possible, simplification of the cost assessment approach is beneficial. Further information on EJPs and the assessment process can be found in the ET Engineering Assessment Overview and the company annexes.

5.54 Based on our assessment, we have allowed in full Vehicles submitted costs, which will be subject to the Operational Transport PCD.[62] Following engineering review, we have allowed all Non-operational Property costs where we consider that the needs case of the project is justified and the costs should be in baseline. We have introduced property re-openers for NGET and SHET and, as a result, excluded associated costs from baseline. For more detail on these re-openers, see the company annexes.

IT&T

5.55 As in RIIO-ET2, for our assessment of IT&T costs we relied on expert review by external consultants. Their assessment covered ET, GT and GD costs and built on the RIIO-2 assessment approach. For ET, Non-operational IT, Operational Technology within NOCs and IT Business Support costs were in the scope of the assessment but Data & Digitalisation or Cyber costs were excluded and assessed separately.[63] The assessment also did not include lower materiality, business as usual IT costs with associated EJPs.[64] The focus of the expert review on higher materiality projects ensured effort efficiency.

5.56 The expert review of each proposed investment focused on three dimensions:

- the validity of the needs case;
- the strength and robustness of the needs case, broken down into 'value for money' and 'optioneering'; and
- the appropriateness of cost levels associated with the proposed work plans, broken down into 'scope definition', 'delivery certainty' and 'cost assurity'.

[61] RIIO-3 SSMC ET Annex Chapter 5, Page 61 https://www.ofgem.gov.uk/sites/default/files/2023-12/RIIO-3%20SSMC%20ET%20Annex.pdf
[62] Chapter 5 of the Overview Document.
[63] See chapters 11 and 12 of the Overview Document, respectively.
[64] These include General Counsel for NGET, Telecoms Network Operations for SHET and Fibre Replacements and Repair for SPT.

5.57 Each dimension component was scored using a Red-Amber-Green (RAG) rating. These scores were then combined into a composite rating and mapped onto percentage funding allowance thresholds.

5.58 Specifically on the assessment approach:

- any project that achieved at least an Amber needs case rating received at least 25% of requested funding;
- a project required a minimum of three Green ratings to be awarded the full funding requested;
- a project with five Amber ratings was awarded 75% of the requested funding; and
- a project required a minimum of three Amber ratings to receive 50% funding.

5.59 For ET, the expert review covered complete assessments of 48 projects, corresponding to around 94% of requested funding for projects with associated EJPs. We have applied the average percentage of allowed expenditure for the projects reviewed for a given TO to the remaining IT projects proposed by that TO. We consider the high number of projects included in the assessment means that this is a representative percentage for each TO.

5.60 Details of the assessment of each TO's project and corresponding outcome have been shared with the relevant TO on a confidential basis.

5.61 Table 13 shows our proposed modelled costs for non-operational capex (inclusive of risk and contingency costs) against TOs' baseline submissions (after exclusions).

Table 13: Non-operational capex modelled costs (£m, 2023/24 prices)

TO	**RIIO-ET3 submitted**	**DD modelled**	**Difference**	**Difference**
	£m	£m	£m	%
NGET	665	530	-135	-20%
SHET	580	479	-101	-17%
SPT	117	107	-9	-8%
Total	**1,362**	**1,117**	**-245**	**-18%**

ETQ51.	Do you agree with our assessment approach for Vehicles and Transport and Non-operational Property? If not, how do you consider we should assess these costs?
ETQ52.	Do you agree with our assessment approach for IT&T? Do you think we should make any amendments to the assessment framework or the thresholds employed? Should any cost categories be included or excluded from the assessment?

Network operating costs (NOCs)

Background

5.62 Network Operating Costs (NOCs) relate to expenditure that is primarily for the day-to-day maintenance of the network to a safe and good standard. NOCs comprise expenditure on faults, inspections, maintenance, repairs, service agreements, vegetation management, NOCs other, flood mitigation, operational technology and visual amenity.[65]

5.63 For NOCs in RIIO-ET2, we used TO-specific unit cost benchmarking where both historical and forecast volumes were available, and an average annual cost approach where either historical or forecast volumes were unavailable. For each sub-category, we took the lower of the RIIO-ET1 unit cost (or average annual cost) and RIIO-ET2 unit cost (or average annual cost) by the proposed RIIO-ET2 volumes to derive the allowed efficient costs. We relied on EJP information when neither of these approaches could be applied, such as where a TO proposed works that did not have a historical equivalent or comparator in the RIIO-ET1 period. We also allowed submitted costs in full in a few cost areas where we were confident costs were efficient, either based on historical data or additional evidence provided.[66]

5.64 In our SSMD, we noted that we were considering combining TO-specific unit cost benchmarking with expert review. We signalled our intention to carry out a separate assessment for Service Agreement costs.

5.65 In RIIO-ET2, NOCs allowances amounted to £1bn, ie 9% of total baseline allowances. Two TOs anticipate an overspend of 13% and 4% relative to their

[65] For definitions of these NOCs categories please see RIIO-3 BPDT Instructions and Guidance https://www.ofgem.gov.uk/publications/riio-3-business-plan-guidance
[66] Eg Faults and Inspections for NGET and SPT, Vegetation Management for SHET.

NOCs allowances set for RIIO-ET2 period, whilst one TO anticipates an underspend of 13%.[67]

5.66 For RIIO-ET3, TOs submitted a baseline allowance request of £2.7bn, an increase of 162% against their RIIO-ET2 allowance. The main driver of this increase is the large increases in Repairs and NOCs other. The inclusion of Operational Technology, only reported under NOCs in RIIO-ET2 for one TO, also contributed significantly to the increase.

Consultation position and rationale

Summary of consultation position

Faults, Inspections, Repairs, Vegetation Management and some NOCs other costs (Site security, Asbestos Management, Safety climbing fixtures, Fire protection, Earthing upgrade): Retain the RIIO-ET2 approach and apply the lower between RIIO-ET2 and RIIO-ET3 unit costs. For assets where the RIIO-ET3 submitted costs are significantly greater than modelled costs derived by the RIIO-ET2 approach (25% and £1m), employ an annual average cost approach.

NOCs other (Vegetation management, Ongoing environmental costs, STEPM, company bespoke NOCs other costs) and Flood Mitigation: Qualitative assessment.

Operational Technology: Expert review of the vast majority of submitted EJPs. For projects with no EJPs associated, apply the same average percentage of allowed expenditure as for the projects subject to expert review for a given TO.

Service Agreements: Engineering qualitative assessment.

Visual amenity: No baseline allowances. Further information in Chapter 3.

Rationale

NOCs – quantitatively assessed

5.67 We have used an evolved RIIO-ET2 approach for the following NOCs categories: Faults, Inspections, Repairs, Vegetation Management and some NOCs other costs (Site security, Asbestos Management, Safety climbing fixtures, Fire protection, Earthing upgrade, Substation electricity). In formulating our approach, we tested several unit cost and annual average cost approaches. In doing so, we also responded to TOs' concerns on rolling forward the RIIO-ET2 approach into RIIO-ET3.

[67] RIIO-2 Electricity Transmission: Annual Report 2023 to 2024 https://www.ofgem.gov.uk/publications/riio-2-electricity-transmission-annual-report-2023-2024

5.68 We have largely retained the RIIO-ET2 approach and apply whichever unit cost is lower between the RIIO-ET2 average unit cost and the RIIO-ET3 unit cost for each asset. For assets where RIIO-ET3 submitted costs are significantly greater than RIIO-ET2 costs, we have employed an annual average cost approach. If this resulted in a positive adjustment, we have allowed submitted costs in full. Where EJPs were submitted, we relied on an engineering review. We calculated thresholds on submitted data after any engineering exclusions on account of insufficient needs case, to allow for a more representative comparison between efficient costs derived from our assessment and submitted costs.[68]

5.69 As in RIIO-ET2, for sub-categories within the scope of this quantitative assessment where no volumes were submitted, we have applied an average annual cost approach.

5.70 Preliminary analysis showed that, by applying the RIIO-ET2 approach, for ten asset categories, modelled costs were significantly lower than submitted costs. This suggested that in these cases historical costs might not be a good indicator of RIIO-ET3 costs. As a result, we investigated alternative approaches for these instances.

5.71 Specifically, we evaluated the following five different approaches:

- Approach 1: RIIO-ET2 approach, comparing RIIO-ET2 and RIIO-ET3 costs;
- Approach 2: Approach 1 except for assets where RIIO-ET3 costs are significantly greater than RIIO-ET2 costs (25% and £1m). In these cases, we used an annual average cost approach for all TOs. If this resulted in a positive adjustment, we allowed submitted costs in full for that TO;
- Approach 3: Annual average cost only, with the average calculated using RIIO-ET2 and RIIO-ET3 data;
- Approach 4: Approach 1, except comparing RIIO-ET2 actual costs with RIIO-ET2 and RIIO-ET3 forecast costs; and
- Approach 5: Approach 2, except comparing RIIO-ET2 actual costs with RIIO-ET2 and RIIO-ET3 forecast costs.

5.72 We recognise that all the approaches have some validity but identified the following issues with some of the approaches:

- within Approaches 1 and 4, RIIO-ET2 costs were not comparable to RIIO-ET3 for some assets;[69]

[68] For further information, please see ET Engineering Assessment Overview.
[69] Eg Maintenance Substation FACTS, Repairs Cables <132kV.

- Approach 3 does not consider volumes, an important measure of NOCs delivery of work; and
- Approaches 4 and 5 compare forecast costs against only three years of data, given there are only three years of RIIO-ET2 actuals. Wherever possible, we prefer to use a larger data set.

5.73 We propose to implement Approach 2 for RIIO-ET3, which we consider to be the most robust. We think that, in principle, the RIIO-ET2 approach is appropriate as a starting point, but by amending it we aimed to make it more robust and less sensitive to data volatility. For assets where RIIO-ET2 and RIIO-ET3 costs are not comparable for one or two but not all TOs, we considered moving to an annual average cost approach for only the TOs where this was the case. However, we considered that this risked disadvantaging the TO(s) with comparable historical and forecast unit costs, so we applied the same approach for all three TOs.

5.74 Our starting point for the materiality thresholds was to consider moving to a different approach if modelled costs for the asset in question were a certain percentage difference from submitted costs. However, we considered it appropriate to combine the percentage threshold with a monetary threshold. This is because, as outlined above, our view is that a unit cost approach is the most robust and purely employing a percentage threshold would mean at least 50% of assets moving to an average costs approach. We carried out sensitivity analysis on the data and concluded that the most impactful thresholds that we tested ranged from 15 to 30 percent and from £0.5m to £2m.[70] We tested the impact on modelled costs using each combination of percentage and monetary thresholds and found that using thresholds of 25% and £1m was the most appropriate approach. We looked at the range of modelled costs when using each combination of thresholds and 25% and £1m resulted in modelled costs roughly in the middle of this range for all TOs. In fact, changing the thresholds did not significantly change modelled costs.

NOCs Other - qualitatively assessed and Flood Mitigation

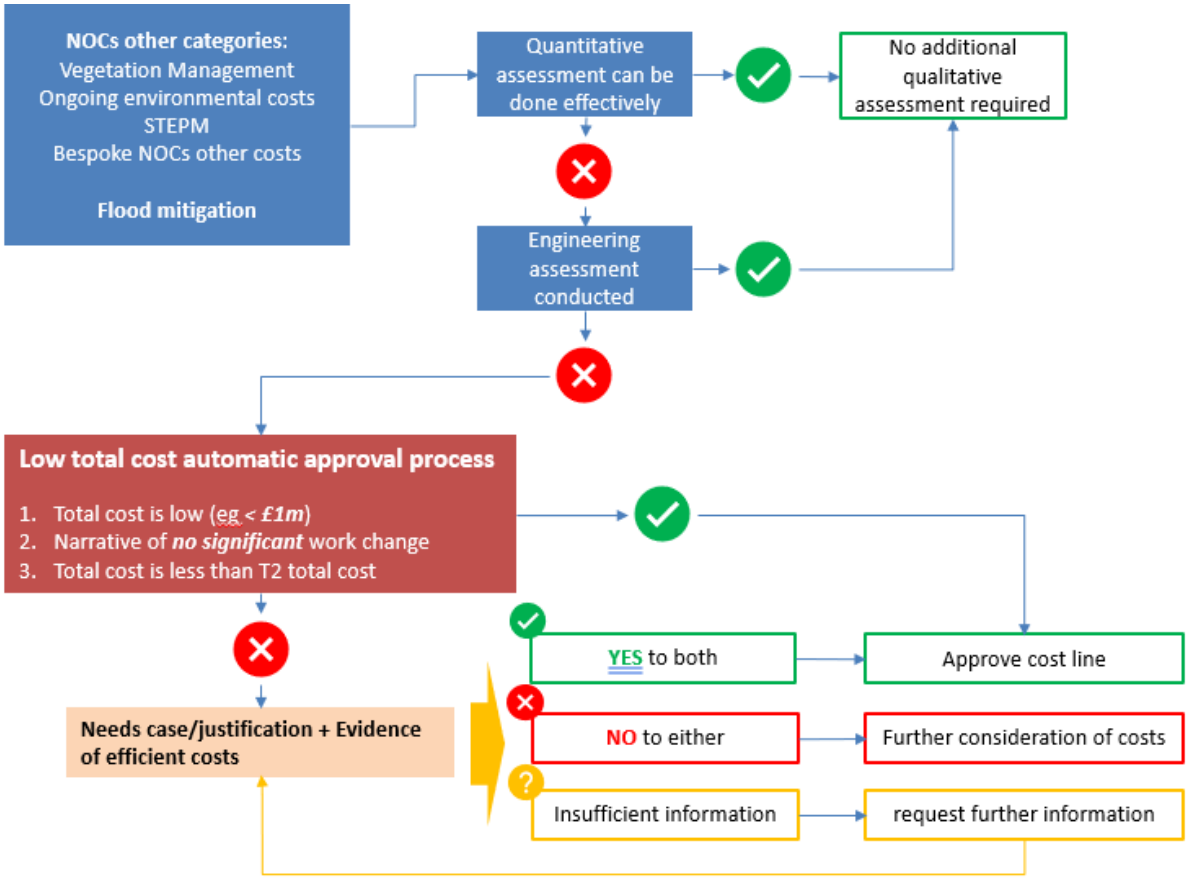
5.75 For NOCs sub-categories where quantitative assessment could not be done effectively or no engineering justification assessment was undertaken, we carried out a separate qualitative assessment. These are cost sub-categories

[70] We tested 15%, 20%, 25% and 30% and £0.5m, £1m, £1.5m and £2m.

where there was either insufficient volume data or where RIIO-ET3 work is not comparable to that of RIIO-ET2.

5.76 We designed a qualitative assessment framework that would not go into the same level of detail as engineering justification assessments but that would give us confidence that costs in scope were efficient.[71] Figure 7 maps out this framework.

Figure 7: Qualitative assessment framework flow-chart



5.77 Our review identified the following NOCs sub-categories as within the scope for qualitative assessment:

- NOCs other - vegetation management, ongoing environmental costs, STEPM and company bespoke NOCs other costs.[72] For Substation Electricity, we considered historical costs were reflective of forecasts so did not deem this in scope; and

[71] We discussed the scope of this framework with TOs at a CAWG.
[72] For NGET, this consists of Property costs, Operational property rents, Environmental provision, OHL equipment and storage management and HVDC security. For SHET, this consists of Water testing, Electrical testing and Site welfare improvements. For SPT, this consists of Contaminated land, Heat resistant paint for substations, Gabion baskets for ground stabilisation, Crib walls for steel towers, Crib walls for wood poles and Nature based solution - OHL ground cover planting.

- Flood Mitigation.

5.78 We allowed these costs in full where total RIIO-ET3 submitted costs were less than £1m or where there was a clear justification of no significant work change from RIIO-ET2. At one CAWG, one TO questioned whether £1m was the correct threshold. This is the materiality threshold we used for NOCs quantitative assessment, so we considered it appropriate to use it for consistency.

5.79 We then qualitatively assessed costs that did not meet these criteria. We first assessed the needs case. If satisfied, we analysed whether there was sufficient evidence that the costs were efficient. If so, we allowed costs in full. If we considered there was insufficient information, we raised SQs to gather more information for our assessment.

5.80 Following TO responses to these SQs, we considered all costs in scope of this framework justified and thus allowed submitted costs in full. This was with the exception of NGET's NOCs other property costs where, upon receipt of disaggregated costs and volumes for RIIO-ET2 and RIIO-ET3, we were able to undertake a unit cost-based assessment.

Other NOCs costs

5.81 Three NOCs categories were not included in either the quantitative or the qualitative assessment frameworks described above. These are:

- Operational Technology: included in the IT&T expert review discussed in the Non-Operational Capex section.
- Service Agreements: no EJPs were submitted in support of these costs but SQs were raised and the responses were subjected to an engineering qualitative assessment. Based on this review, we considered SHET's and SPT's submissions and responses comprehensive, so have allowed these costs in full. SQ responses suggested that NGET's submission was incomplete, so we have not allowed these costs at this stage, pending further information.
- Visual Amenity: we consider that there should be no baseline allowances in this area. NGET and SHET submitted costs for projects not yet submitted in RIIO-ET2. Given our SSMD decision not to retain the Visual Amenity PCD and re-opener, we have not allowed these costs. NGET submitted further costs which we consider are RIIO-ET2 carry-over and will be reviewed at the close out of the period.

5.82 Table 14 shows our proposed modelled costs for NOCs (inclusive of risk and contingency costs) against TOs' baseline submissions (after exclusions).

Table 14: Network Operating Costs modelled costs (£m, 2023/24 prices)

TO	RIIO-ET3 submitted	DD modelled	Difference	Difference
	£m	£m	£m	%
NGET	1,620	1,013	-607	-37%
SHET	361	279	-82	-23%
SPT	353	263	-90	-26%
Total	**2,334**	**1,555**	**-779**	**-33%**

ETQ53. Do you agree with our quantitative assessment approach, ie unit cost and annual average costs using RIIO-ET2 and RIIO-ET3 data? If not, how should we carry out the quantitative assessment?

ETQ54. Are there any NOCs categories or sub-categories that we should have excluded or included from quantitative assessment? If excluded, how should we assess them?

ETQ55. Do you consider that the 25% and £1m thresholds are appropriate for the quantitative assessment of NOCs? If not, what should the thresholds be and why?

ETQ56. Do you support our qualitative assessment framework for NOCs other (Vegetation Management, Ongoing environmental costs, Small Tools Equipment Plants & Machinery (STEPM) and company bespoke NOCs other costs) and Flood Mitigation? If not, how should we assess these costs? Are there any additional costs that we should include in this framework?

Indirect costs

Background

5.83 Indirect costs refer to internal support and overhead costs that are necessary to operate a transmission business, that could not, on their own, be classed as a direct network activity. These costs are grouped into two main categories: Business Support Costs (BSC) and Closely Associated Indirects (CAI).

5.84 BSCs cover key organisational activities that support the broader functioning of the business. This includes corporate support functions such as IT, finance, legal, human resources, property management, and procurement.

5.85 CAIs are more directly tied to construction and operation of network assets such as project management and network design. This also includes control centre

operations, covering costs related to real time system operation and outage planning, as well as operational training and premises costs, such as office facilities.

5.86 In RIIO-ET2, indirect costs were assessed using a combination of econometric and non-econometric approaches. For BSCs, regression analysis was the primary tool used, with adjustments applied to account for TO-specific circumstances. BSC items such as Pension scheme admin & PPF Levy and insurance were deemed unsuitable for regression analysis and thus separately assessed.

5.87 Similarly, for CAIs, regression analysis was also applied to most costs, but operational training and wayleaves were excluded as unsuitable for regression analysis and instead reviewed using historical cost trends or other quantitative and qualitative assessments.

5.88 In our SSMD, we flagged the intention to investigate whether a more granular approach for indirect assessment would be viable. We said we would continue ongoing work and discussion for improving scale drivers and investigate the potential impact of cost volatility on the model. We also noted the intention to retain the use of expert review for operational IT & Telecoms. Following discussions with TOs we requested operational IT & Telecoms to be reported in the Operational Technology NOCs BPDT table, for consistency across TOs. Details of the combined assessment can be found under Non-Operational Capex within this chapter.

5.89 In RIIO-ET2, indirects allowances amounted to £19bn, ie 22% of total baseline allowances. Two TOs anticipate an overspend of 2% and 6% relative to their allowances across RIIO-ET2, whereas one TO anticipates an overspend of more than twice its allowance with an additional 102% expenditure. This projected overspend has been attributed to organisational growth and the increased costs required to deliver CP2030 commitments.[73]

5.90 For RIIO-ET3, NGET has submitted indirect costs around 5% below its reported RIIO-ET2 spend whereas both SHET and SPT are reporting a significant increase of 2.15 times and 2.5 times RIIO-ET2 spend respectively. The difference between NGET and the Scottish TOs' step-change increase for indirect costs reflects the current size of each company and, therefore, the different levels of

[73] RIIO-2 Electricity Transmission: Annual Report 2023 to 2024 | Ofgem https://www.ofgem.gov.uk/publications/riio-2-electricity-transmission-annual-report-2023-2024

growth required to deliver their anticipated capex programme. This is also partly due to SHET and SPT including indirect expenditure they anticipate will be required to deliver pipeline schemes whereas NGET tended to include indirect costs for more certain schemes. Overall, pipeline schemes account for around 60% of projected ET expenditure, demonstrating both the high levels of uncertainty around costs and the potential scale of future workloads.

Consultation position and rationale

Summary of consultation position

Closely Associated Indirects (CAI): A blended benchmarking approach applying equal weight to two benchmarking assessments; a POLS multivariate regression based on historical data (2014-24) and a TO-specific ratio analysis using RIIO-ET3 data. Introduction of a CAI UIOLI allowance to supplement ex ante baseline CAI funding.

Separate assessment for operational training and wayleaves, with submitted costs allowed in full.

Business Support Costs (BSC): For most BSC categories, POLS regression approach using historical data (2014-24), supplemented with a TO-specific trend analysis based on FTEs from the end of RIIO-ET2. Mid-period re-opener with expenditure-based trigger.

Separate assessment for IT&T, insurance and pension scheme admin and PPF levy. See paragraphs 5.55-5.61 for our proposed approach to IT&T. For insurance, ratio benchmarking based on network length. Qualitative assessment for pension scheme and PPF levy, with submitted costs allowed in full.

Rationale

5.91 For RIIO-ET3, we have assessed indirects using an improved methodology that builds upon the RIIO-ET2 approach but incorporates incremental changes. These refinements are intended to address limitations of the previous methods, some of which are set out in our SSMD, but also reflect specific RIIO-ET3 challenges, including the need to support the delivery of CP2030.

5.92 In developing our approach, we considered TOs' initial views of which costs should receive an ex ante allowance for CAI and BSC, including the opportunity to fund all TOs' initial submissions upfront. We are of the view that providing full upfront funding for indirects related to schemes the TOs requested to be subject to UMs or in the delivery pipeline is not appropriate.

5.93 For RIIO-ET3, consistent with regulatory precedent, our primary objective is to set baseline allowances where we are satisfied of the need and certainty of the proposed work, and where there is sufficient certainty of the efficient cost of the

work at the time of price control determinations. We do not consider the totality of indirects associated with projects subject to in-period adjustment mechanisms, which are generally more uncertain and of lower maturity, to fully meet the criteria. There is also the risk that these projects are not delivered, or are delivered late, and protecting consumers against the risk of under- or overfunding of the associated indirects would require introduction of multiple adjustment and clawback mechanisms, which we consider to be disproportionately complex.

5.94 We are also concerned the UMs and pipeline projects in TOs' initial submissions include schemes for which an allowance for indirects would be determined via funding routes outside of RIIO-ET3, like ASTI or RIIO-ET2 close out, exposing us to the risk of double funding.

5.95 Overall, while recognising the importance of timely funding, we do not consider the need for funding indirects upfront to the extent which TOs have requested to be proportionate to the risk to consumers and the additional complexity that is associated with that approach.

5.96 This is why, for the assessment of both CAI and BSC, our starting point was to set initial baseline allowances based on historical econometric benchmarking to capture the relationship between costs and established cost drivers. While performing our analysis, we found inconsistencies in how TOs have reported indirect costs related to UMs and pipeline projects in their Business Plans.[74] To set initial baseline allowances for CAI and BSC, we had to make assumptions to make the data more consistent. We recognise that further work is needed to fully align this data and intend to work closely with TOs ahead of Final Determinations to address this.[75]

5.97 Nonetheless, we are aware of the limitations of relying solely on historical data, especially in the context of RIIO-ET3. We acknowledge TOs' specific needs to scale up to be able to deliver an unprecedented programme of work. As such, we consider it appropriate to complement the historical econometric benchmarking with more forward-looking analyses.

[74] While all TOs included indirects for baseline and UMs reported in the cost and volume tables, TOs ranged from full exclusion to full inclusion of indirects related to pipeline schemes. We note that the comparison of modelled allowances against submitted costs reflects this discrepancy in reporting, with higher reductions for those who included pipeline schemes and lower reductions for those who excluded pipeline schemes.

[75] The alignment of indirects baseline submissions will also consider any reprofiling of schemes from T2/T3 crossover projects into the RIIO-ET3 funding framework not captured in the current analysis, as well as more accurate estimates for baseline FTEs (for DDs we could only use a regression-based approximation of FTEs baseline figures).

5.98 Specifically, for both CAIs and BSCs, we complemented the historical regression models with a company-specific assessment based on forecast data, to account for some of the anticipated step change in workload for RIIO-ET3. Importantly, this approach explicitly recognises that the three TOs are at different stages in terms of the required growth to deliver their investment plans.

5.99 For CAI, we blended the historical regression with a company-specific ratio benchmarking based on the RIIO-ET3 period to capture the varying levels of growth required for each TO to deliver their capex programme. For BSC, we supplemented the historical regression with a time trend analysis based on Full-Time Equivalent staff (FTEs) across each TO's entire portfolio, recognising employee growth as a key driver of BSC. Our blended approach ensures baseline allowances reflect, to some extent, the increasing network scale and operations.

5.100 To ensure our approach remains balanced, we assigned equal weights (50:50) to historical regressions and forward-looking ratio and trend analyses. We do not consider it appropriate to diminish the importance of the robust relationship between costs and drivers that can be observed in historical data. At the same time, we ought to be considering forward-looking pressures, such as increasing FTEs or operational expansion, which are not visible in historical data. We consider weighting past and future the same to be appropriate to take a balanced view.

5.101 Finally, to ensure timely funding of future, more uncertain work and further address TOs' different needs for indirects funding, we recognise that ex ante baseline allowances need to be complemented with regulatory mechanisms for funding of indirects in period. For BSC, we propose the introduction of a mid-period re-opener. For CAI, we propose to set a flexible UIOLI allowance on top of baseline allowances to support the preparedness of TOs to deliver the forecasted load programme. We note that the CAI UIOLI allowance would be in addition to several mechanisms in place that provide funding for indirects for increased activity levels, such as re-openers' project assessment process for schemes not captured by the CAI UIOLI. Moreover, arrangements are in place that grant advanced or upfront funding to support preparatory work, enabling TOs to progress schemes in their early stages. Preconstruction funding (PCF) is available for load related schemes and in-period Initial Development funding (IDF) is provided for material tCSNP projects.

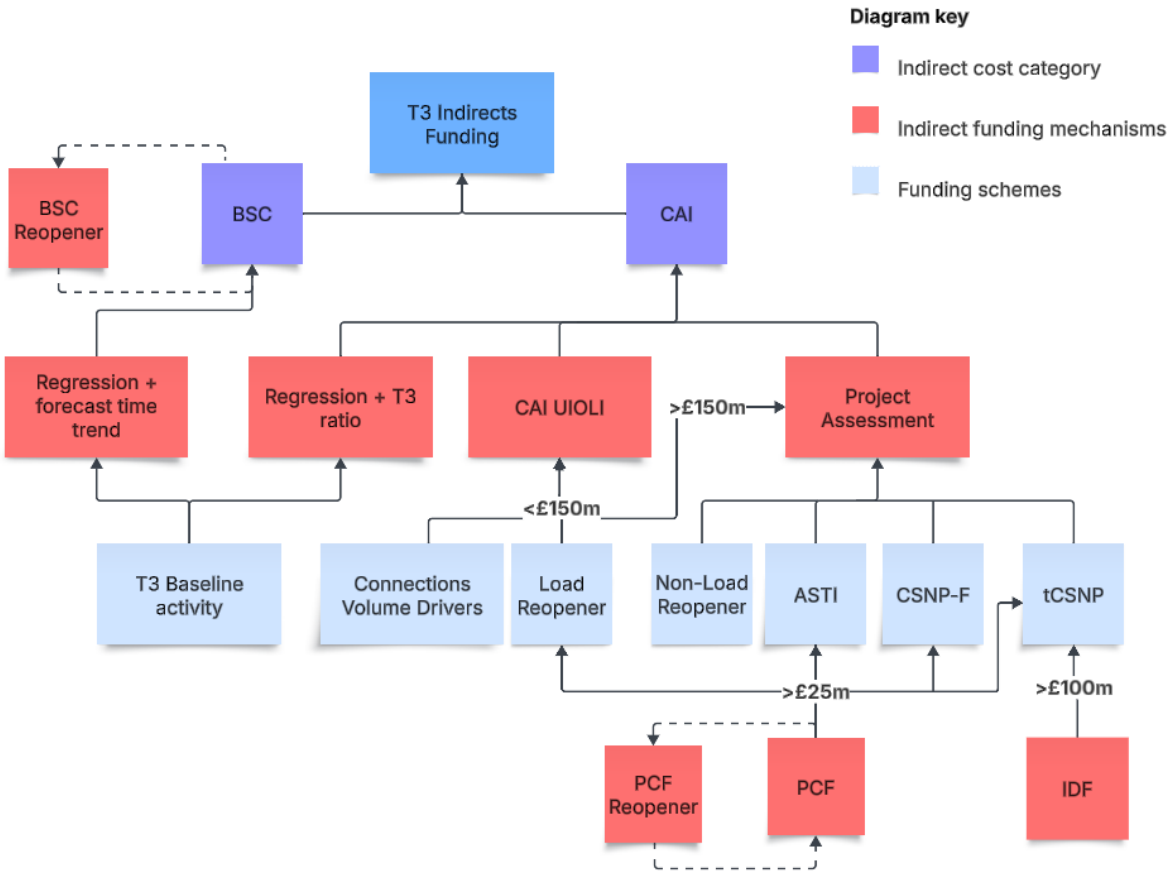
5.102 In conclusion, in our approach for RIIO-ET3 we have:

- continued to use historical econometric benchmarking to robustly estimate the relationship between CAIs and BSC and respective cost drivers, but to complement the comparative assessment with either ratio or trend analysis to make our assessment more robust and able to address TOs' specificities in terms of their required growth for RIIO-ET3; and
- introduced new regulatory mechanisms that will balance TOs' need to scale up in line with CP2030, and the subsequent accelerated transition to net zero, while still protecting consumers from undue risks.

5.103 We consider that our approach strikes an appropriate balance between protecting consumers and meeting the scale and complexity of TOs' significant challenges associated with the forecast step change in costs linked to the delivery of CP2030. From a cost assessment perspective, relying on both historical and forecast data, and using different techniques fosters the overall reliability of our approach. Our methodology also ensures that no single approach is deterministic in our assessment of the efficiency of TOs' indirects expenditure. From a funding framework perspective, the proposed mechanisms for increases in indirects provides greater certainty on immediately available funding for indirects and flexibility on how it is used, both crucial in face of the uncertainty associated with delivering CP2030. Overall, we consider our approach strikes the right balance between providing timely and sufficient funding of indirects whilst mitigating against any risks of late delivery, or non-delivery, and therefore protecting consumers.

5.104 Our RIIO-ET3 assessment approach and funding framework are illustrated in Figure 8 below.

Figure 8: Overview of the indirects funding framework and assessment methodologies



5.105 In the following sections we provide further details on our assessment methodologies and proposed funding mechanisms. Specifically, we discuss:

- our econometric benchmarking approach to CAI and BSC;
- category-specific proposals for CAI and BSC, highlighting bespoke methodological elements; and
- costs separately assessed, namely IT&T, operational training, wayleaves, insurance and pension scheme admin and PPF levy.

Econometric benchmarking approach

5.106 We have used regression analysis for our CAI and BSC cost models. As in RIIO-ET2, which represents our starting point, both models were estimated using a Pooled Ordinary Least Squares (POLS) estimator and a Cobb Douglas cost function with log transformation.[76]

[76] Panel data methods, such as Fixed Effects (FE) and Random Effects (RE), and alternative functional forms were explored, however, they did not deliver significant improvements and were therefore not taken forward.

5.107 However, we have made several changes to the RIIO-ET2 modelling approach to better reflect the evolving context of RIIO-ET3. Table 15 summarises the key features of the CAI and BSC models. Our key modelling choices are discussed later in the section and in Appendix 2.

Table 15: Summary of main modelling choices

Modelling choices	**CAI**	**BSC**
Estimator	Pooled OLS	Pooled OLS
Functional form	Cobb Douglas (log log)	Cobb Douglas (log log)
Time period	2014-2024	2014-2024
Cost drivers	Capex Modern Equivalent Asset Value (MEAV)	Composite Scale Variable (CSV)
Time variable	Linear time trend	-
Company dummy	-	Gas transmission sector

Closely Associated Indirects (CAI)

5.108 In this section we discuss CAI-specific aspects of our assessment methodology, including but not limited to our proposed recovery mechanism for CAI in relation to uncertain, less mature projects, such as those subject to UMs or in the delivery pipeline.

Historical baseline regression

5.109 For RIIO-ET3, we have set baseline allowances for CAIs using a blended approach which combines regression analysis and ratio benchmarking.

5.110 Our econometric model is based on a POLS multi-variate regression using historical data (2014-24) to assess CAI across the three TOs against capex and MEAV as drivers and the inclusion of a linear time trend.

5.111 We are retaining the RIIO-ET2 cost drivers (capex and MEAV) given that these reflect both the workload and scale effects that drive CAI, where subcategories can be related more to capex investments or to network maintenance more broadly. The economic rationale and regulatory precedent of using these two drivers was corroborated by the model results, showing that both drivers have a statistically significant relationship with CAI. In contrast with RIIO-ET2 and following engagement with TOs, we used different unit costs and asset composition to calculate MEAV. We determined using standardised unit costs for

the MEAV to be a reasonable amendment to also help mitigate potential cost volatility causing over-inflation of CAI modelled costs. See Appendix 2, Modern Equivalent Asset Value (MEAV) for more detail.

5.112 We have also included a linear time trend in the model to capture unobserved time effects. We tested other time variables such as price control dummies, but they did not improve model fit.[77]

5.113 We conducted econometric benchmarking for the ET sector only. This is a shift from the RIIO-ET2 approach where CAI was jointly assessed across ET and GT. The differing capex profiles and diverging sectoral needs for RIIO-ET3 compared to GT suggested a separate analysis may be better suited. For example, for the ET sector projected load related expenditure accounts for almost 70% of the increase in totex for RIIO-ET3 compared to RIIO-ET2 whereas for National Gas load is expected to slightly decrease by 0.4%. This was supported by model testing which showed inclusion of National Gas did not improve the model fit or yield significant results, indicating that the cost drivers are not sufficiently capturing the diverging trends for CAI across ET and GT. We also excluded GT from the CAI model, as we do not require National Gas to report contractor indirects separately from CAI like in the ET sector.

Ratio analysis

5.114 We acknowledge that TOs require varying levels of network growth for RIIO-ET3 and are at differing stages of preparedness to meet CP2030 targets. To ensure our assessment reflected this, we have supplemented the regression analysis with a forward-looking, TO-specific ratio analysis. We consider the ratio benchmarking complements the regression as a simple and proportional approach, and the TO-specific view captures the future network growth specific to each TO. This blended method aims to improve robustness, reduce reliance on a single modelling technique and account for the step-change in growth expected in RIIO-ET3.

5.115 Specifically, the ratio analysis is based on the baseline view for the RIIO-ET3 period and establishes a company-specific benchmark for the typical ratio of CAI costs to direct capex and MEAV. For each TO, we calculate the median of the annual ratios for both capex and MEAV and apply equal weighting to derive our

[77] The inclusion of price control dummy variables was tested across different CAI model specifications depending on the time period included in the regression. However, this did not address the concerns around structural breaks in the data due to changing price controls or comparability of the historical period with RIIO-ET3 considering the step-change in CAI reported.

estimate of efficient CAI costs. As explained in the previous sections, the ratio-derived costs are combined with modelled costs from the regression analysis using equal weights.

5.116 In estimating the benchmark, we considered various options including a joint assessment across TOs, different time periods and whether to choose the median or mean as a benchmark. Among the time periods assessed, we consider the RIIO-ET3 period to be the most suitable to increase the focus on forecasts and to balance the backward-looking nature of the regression model estimated on actuals. We considered that TO-specific ratios based on RIIO-ET3 capture each TO's forecast drivers, so that the step-change for Scottish TOs is built into the benchmark. To reduce the influence of outliers and reporting anomalies, we selected the median over the mean.

Disaggregation

5.117 In our SSMD, we said that we would consider disaggregating CAI into 'very' and 'other' CAI based on the different correlation of the underlying activities with capital expenditure, as this had the potential to improve model accuracy. [78]

5.118 While we consider there is rationale for this disaggregation, we have identified factors affecting the viability of this approach:

- We looked at the correlation between 'other' CAI categories and capex, and the analysis showed mixed results. We had expected all 'other' CAI subcategories to have a lower correlation with capex relative to 'very' CAI subcategories, which would theoretically improve model accuracy if disaggregated. However, in some cases material 'other' CAI sub-categories such as Engineering Management and Clerical Support and Health, Safety and Environment showed similar levels of correlation with capex to 'very' CAI sub-categories. This would suggest a different disaggregation approach to 'very' CAI vs 'other' CAI, based on correlation strength with capex; however, we consider this would introduce complexity and ambiguity, particularly in defining thresholds for subgroups and aligning this across TOs.
- We ran the 'very' CAI model separate from 'other' CAI combined with BSC. Though some model specifications produced slight improvements in terms of

[78] 'Very' CAI activities are those which are very closely associated with the capex program and the physical delivery of infrastructure (includes Project Management, Network Design and Engineering). 'Other' CAI activities include the remaining CAI sub-activities which are more generalist and reflective of the broader portfolio and network scale (eg logistics and transport).

model fit, these were often offset by the failing of diagnostic tests. As such, we considered the argument for moving away from the CAI vs. BSC split used in RIIO-ET2 to be not as strong as expected.

- TOs reported different levels of expenditure for the same sub-categories of CAI, suggesting structural differences or different accounting practices. Disaggregating CAI would exacerbate these inconsistencies, distort model results and reduce the ability to compare performance across TOs.
- Combining 'other' CAI with BSC as previously indicated and aligning it with pre-existing CAI funding mechanisms (which are based on an aggregate view of CAI) introduces practical challenges. Under this modelling approach, 'other' CAI and BSC baseline allowances would cover the TOs' complete portfolio and any uplifts required due to unforeseen changes in network growth would be through a re-opener or scalar mechanism. Therefore, we would need to ensure that any additional CAI funding, for example through ASTI, PCF and UMs, is appropriately allocated for 'very' CAI only to avoid double funding. Given the mixed correlation results discussed above, we consider that BSC and 'other' CAI do not scale uniformly.

5.119 We consider that, on balance, the drawbacks of this approach outweigh its benefits and retaining the regulatory precedent of two indirect models split by CAI and BSC remains appropriate.

Contractor indirects

5.120 We asked TOs to report contractor indirects as part of CAI in the BPDTs, in line with the current Regulatory Instructions and Regulations (RIGs), for the RIIO-ET2 and RIIO-ET3 periods where this has historically been reported under capex. TOs have expressed there is limited granularity of data to accurately report contractor indirects, and each applied a high-level estimate to reallocate these costs based on a sample of projects.

5.121 We explored various options to include contractor indirects within the regression analysis such as adjusting RIIO-ET1 data for a more like-for-like comparison. However, through engagement with the TOs, concerns were raised about applying econometric benchmarking to these high-level estimates as this could distort the cost and cost driver relationship, particularly where TOs applied varying assumptions. Acknowledging these concerns, we have assessed contractor indirects separately applying the same efficiency challenge that is

applied to load and non-load capex.[79] Given data limitations at this time, we consider this approach is the most appropriate, as contractor indirects are strongly linked with project capex.

5.122 Our view of efficient contractor indirects is included in the proposed baseline allowances for CAI, as the latter were set as a whole, in line with our view that contractor indirects are in effect CAI. TOs will then be expected to continue reporting these costs as CAI to support future analysis and improve data quality.

UIOLI allowance

5.123 We recognise that delivering CP2030 is likely to require an increase in activity during RIIO-ET3 and that TOs will need to prepare in advance. This may require growing their structure to ensure, when the time comes, they can connect an increased volume of customers and reinforce the network at pace.

5.124 Our proposed baseline allowance for CAI accounts for some of these pressures already. However, we acknowledge the scale of investments required to deliver CP2030 could be significant, and that the timing of the additional funding required to ensure TOs' preparedness to scale up is an important factor.

5.125 While we have considered several options to address these residual risks, and close any funding gaps, we note there is a balance to be struck between TOs' need for growth and consumer protection. As such, we propose to provide upfront CAI allowances on a UIOLI basis in addition to baseline CAI allowances.

5.126 The introduction of a CAI UIOLI allowance has several advantages:

- Funding is extremely flexible. TOs can access allowances at any time to support the anticipated increase in CAI activities associated with the unprecedented programme of work expected for RIIO-ET3. This means TOs are protected for residual volume, scope and timing risks.
- Consumers will only pay for what is needed, with any unspent allowances to be clawed back.

5.127 The disadvantage of the proposed approach is the limited incentive to minimise costs provided by the CAI UIOLI allowances, which are not subject to TIM. We intend to minimise drawbacks by ensuring UIOLI allowances are properly designed in terms of both size and scope.

[79] We propose to apply the scheme-level benchmarking approach discussed in the load and non-load capex section of this chapter. Under this approach, if a project's total capex cost is below the benchmark, the contractor indirects submitted for the project will be allowed in full. If the cost exceeds the benchmark, the indirect costs will be reduced proportionally based on the difference between the benchmark and the submitted project capex.

5.128 The scope of the CAI UIOLI allowance covers load projects below £150m, while its amount corresponds to the 10% of the expected capex of eligible projects and is in addition to any PCF. The CAI UIOLI calculation scope includes the Load Reopener and connections projects reported as future UMs or in the pipeline. A materiality threshold of £150m has been applied which includes most forecast projects whilst mitigating against large swings in CAI requirements due to potential scope changes or non-delivery of more material projects. We have not included load projects under £25m which will have access to a separate Load UIOLI for their capitalised expenditure within the CAI UIOLI pot. We consider these low materiality projects can be managed by TOs within existing resources. This will also incentivise efficient use of indirects, particularly as the CAI UIOLI is not subject to the TIM.

5.129 In determining the appropriate proportion of capex for the UIOLI allowance, we considered various options including those based on the benchmarking assessment. We found that a flat percentage across all TOs would provide a pragmatic and equitable solution, particularly as this is based on TO's currently forecast investment needs. The rate of 10% reflects a conservative position within the range observed through benchmarking analysis and is broadly consistent with the 10.8% indirect scaler applied in RIIO-ED2. The conservative rate is also to reflect that some of the load investments within the scope of the CAI UIOLI might fall away.

5.130 We propose to introduce a requirement for TOs to provide detailed reporting on the allocation of this funding, which we believe will be integral to ensuring the mechanism achieves its intended objective to fund TOs' growth at low risk for consumers.

5.131 We also intend to provide the UIOLI allowances in place of an opex escalator for RIIO-ET3.[80] Given the growing scale and complexity of RIIO-ET3 projects, we do not consider a uniform CAI uplift appropriate across diverse project types. The CAI UIOLI allowance, based on TOs' best view of future workloads including connections plans, is considered substantial and flexible. Its fungibility enables TOs to reallocate funding as project needs evolve or fall away. Indirects funding

[80] The RIIO-ET2 opex escalator is an automatic volume driver, providing funding for indirects when additional investment is incurred in-period, and is applicable to certain load and non-load UMs. The mechanism includes a NOCs uplift for load UMs which is provided after asset energisation. The removal of the NOCs uplift is not expected to lead to material underfunding as most network expansion occurs at the end of RIIO-ET3. This means that TOs will primarily begin maintenance in the next price control period, with NOCs for these assets captured in RIIO-ET4 baseline allowances and interventions in RIIO-ET3 likely covered under warranty.

can be requested for non-load reopener projects through the project assessment process for re-openers and may be considered for load related projects where the full CAI UIOLI has been utilised. Legacy RIIO-ET2 UMs which are applicable under the opex escalator licence condition will continue to have the RIIO-ET2 uplift to CAI and NOCs allowances applied.

5.132 The size of the CAI UIOLI is £267m for NGET, £184m for SHET and £78m for SPT. This is based on the allocation of schemes at the time of calculation based on the scope outlined above and may change subject to reallocation or views in response to this consultation. The indirects allowances presented in this chapter are exclusive of the CAI UIOLI amount.

5.133 In light of the above and given the various mechanisms in place that provide funding for indirects for increased activity levels (as shown in Figure 8), we consider our proposed funding arrangements for CAI provide a comprehensive and flexible framework that ensures there are no material funding gaps for indirect costs during RIIO-ET3. This also considers broader RIIO-ET3 policies including the proposal for a stepped TIM which aims to mitigate risk of over-spending and the close out process that allows for adjustments to ensure TOs are fairly compensated.

Business Support Costs (BSC)

5.134 In this section we discuss specific aspects of our assessment methodology for BSC, including the opportunity to fund organisational growth through a re-opener.

Historical baseline regression

5.135 We consider the RIIO-ET2 regression methodology, based on a POLS estimator on historical data (2014-24) and using a composite scale variable (CSV) as a driver, to still be a robust methodology maintaining stable and statistically significant results in different time periods,[81] with and without the inclusion of the GT sector in the dataset as well as across initial submissions and baseline cost submissions.

5.136 In calculating the CSV driver, we have used the same formula weighting for the CSV between totex, FTE and MEAV as we did at RIIO-ET2, which links the various subcategories of BSC to the most relevant drivers.[82] For example, HR is mainly driven by headcount, hence HR has been linked to FTEs in the calculation

[81] For the outcome of the model, see Appendix 2.
[82] The updated weights are as follows: 9% for totex, 11.5% for FTEs, and 79.5% for MEAV.

of the CSV weights. This means weights have stayed relatively stable compared to the RIIO-ET2 model. We found that significant changes to the CSV weights produce only a small impact on the predictive power of the model and therefore we consider our approach to be appropriate.[83]

5.137 For RIIO-ET3, we have maintained a cross-sector approach to BSC for ET and GT. Both the type of costs and the drivers of these costs remain similar between sectors. This can be seen in the model, where gains from increased data points for the estimation significantly outweigh any issues of having a qualitatively different network company in the sample. Whilst there is a qualitative difference, this factor is outweighed by the statistical advantages of using data from the two sectors, and that there is no structural break within the data. We control for the qualitative difference by using a dummy variable for GT, as was done at RIIO-ET2. This renders the model more fit for purpose.

Trend analysis

5.138 As for CAI, we investigated options to complement the baseline allowances from the regression analysis, which relies on the historical relationship between cost and drivers, with forward-looking approaches that better capture TOs' need for growth.

5.139 On this basis, we have included a TO-specific trend analysis to capture the expected FTE growth. For the trend analysis, we started from the end of RIIO-ET2 (2026) and calculated TO-specific modelled costs by applying this trend of FTE growth to BSC forecast costs.[84] We consider FTE as a measurement of personnel to be a robust driver of BSC costs that has been affirmed through our regression work and has regulatory precedent, as well as being a more consistent basis of reporting than MEAV between the TOs. We have used the last year of RIIO-ET2 to account for the position the TOs consider they will be in at the end of RIIO-ET2 for the step change into the next period. As set out in previous sections, we propose to determine baseline allowances for BSC by combining trend analysis with our baseline regression using equal weights. We also performed robustness checks using alternative time trends.

5.140 The advantage of a blended approach is that it accounts for the step change in growth that is forecasted to be experienced by TOs in RIIO-ET3 in a way that

[83] For example, in one test we weighted the 3 variables evenly in the CSV. Changes to both the CSV coefficient and model fit were minimal.
[84] The trend analysis used year-on-year forecasted increases (or decreases) in a driver to set allowances.

acknowledges that this challenge is different between the TOs, in both time and scale.

5.141 We did consider alternative methodologies to complement our baseline assessment. For example, we considered a supplement to modelled costs via uplifts based on one of the drivers such as FTE and MEAV. The increases were very small, however, and did not uplift allowances enough over the baseline allowances to properly strike the balance for consumers and TOs. We also considered a regression that used drivers that combined initial submission and baseline view. This would have looked at the inclusion of certain projects based on rules such as timing of the investment or engineering approval, to create consistency between TOs that better ensured a like-for-like comparison. However, applying such a regression while potentially improving data consistency, would likely be complex, administratively intensive and generate biased results. In any event, maintaining a regression only approach also meant losing a more TO-specific approach to growth, which may have disadvantaged some TOs compared to our proposed approach, which would negatively impact consumers.

BSC re-opener

5.142 In addition to the ex ante allowances, we propose the introduction of a BSC re-opener to address potential further growth. This would be a mid-period re-opener to account for TOs' growth beyond what is already funded via ex ante allowances. This would ensure protection for consumers by awaiting greater certainty on need and scale of costs whilst providing an opportunity to proactively support network growth in a manner that incentivises efficiency. This will be triggered mid-period if both totex and BSC outturn costs are above 15% of allowances.[85]

5.143 We consider 15% is an appropriate threshold. This is the TIM threshold after which any overspend is passed on to consumers in full, therefore, in order to benefit them we think it is particularly important to undertake an efficiency assessment after the 15% threshold is passed as part of the re-opener process. We have considered a multi-tiered threshold system for BSC (eg light touch assessment for low levels of overspend vs. more in-depth assessment for high

[85] For totex, we propose to look at overspend of non-variant allowances (ie allowances not linked to specific projects or activities such as PCDs or volume drivers) only. This is to ensure the BSC re-opener is only triggered after the TO has made all the efforts to efficiently use existing fungible funding, but also to avoid for it not to be triggered because of potential underspend on ring-fenced allowances such as PCDs.

levels of overspend), however, we consider this would be complex to implement given the need to establish the different thresholds. We also considered other triggers for the BSC re-opener. For example, a volume or workload index, which would be based on the drivers for BSC (eg FTEs, load capex or overall capex). However, a volume or workload index may fail to account for all potential cost pressures. It may also be complex to implement and in the case of capex or load linked adjustments, be considered not the primary drivers for BSC.

Separately assessed costs

5.144 As in RIIO-ET2, we have subjected operational training costs to separate assessment due to these costs being not suitable for regression. We considered both quantitative and qualitative evidence in the business plans, as well as information submitted via SQs. We considered the submitted requests for operational training in line with drivers of growth such as increases in FTEs and network scale. We were also satisfied with TOs' justification for the expected increase in costs, which included explanations for how they are maintaining efficiencies and using of innovation. As such, we propose to allow TOs' submitted costs in full, also in recognition that this could help relieve potential workforce resilience challenges.

5.145 For wayleaves, similar to RIIO-ET2, we have qualitatively assessed the evidence submitted due to the bespoke nature of wayleaves. We have allowed these costs in full.

5.146 For insurance, we initially reviewed the evidence submitted in the business plans and via SQs to understand justifications of cost increases, as well as the qualitative factors in the TOs' insurance approaches including policy loss limit, deductibles, coverage and differences within the system itself - namely subsea cables and the rest of the network.

5.147 After review, we remained concerned for the efficiency of the insurance costs submitted for the RIIO-ET3 period. To ensure insurance allowances reflect cost efficiency, and in contrast with the RIIO-ET2 approach, we therefore used a ratio benchmarking on network length, using the median cost for RIIO-ET3 as the benchmark. We consider network length to have engineering rationale and, looking at the network holistically, we think it better controls for differences between TOs that were visible through an onshore and offshore split.

5.148 As an alternative, we performed a network length ratio benchmarking using data from both RIIO-ET2 actual and forecast data, as well as RIIO-ET3 forecast data. Information supplied by the TOs on macroeconomic changes, and the network

growth expected in RIIO-ET3, particularly offshore, has limited the usefulness of RIIO-ET2 data. We also investigated the use of MEAV, but we found that results were not sufficiently robust. Where TO information highlighted the increase in subsea cables as the main source of cost increases, we also looked at a model that assessed subsea cables and the onshore network separately. This however produced much larger structural breaks in the dataset than our chosen methodology, generating potentially unreliable results.

5.149 We welcome further stakeholder engagement on this complex area to understand if we can better utilise the disaggregated information regarding subsea cables, or if other models or types of assessment would be more appropriate.

5.150 The cost of the pension scheme admin and Pension Protection Fund (PPF) levy were also separately assessed due to these costs not being consistent between TOs. We found that, for each TO, RIIO-ET3 submissions were consistent with the historical trend of these costs. Thus, for RIIO-ET3 we propose to allow these costs in full.

5.151 Community Benefit Funding has been proposed by government, providing community funds for new onshore ET infrastructure, and voltage up-ratings which trigger an environmental impact assessment.[86] The funds provided will be based on the assets included within the project. Costs for these will be reviewed ex post and thus TOs' submitted costs have been excluded from our benchmarking.

5.152 Table 16 and Table 17 show our proposed modelled costs for CAI and BSC against TOs' baseline submissions (after exclusions). Modelled costs shown in the tables do not include the additional upfront funding provided via CAI UIOLI.

[86] For more on Community benefit funds, see Community Benefit Funding pass-through mechanism.

Table 16: CAI modelled costs (£m, 2023/24 prices)

TO	**RIIO-ET3 submitted**	**DD modelled**	**Difference**	**Difference**
	£m	£m	£m	%
NGET	707	652	-55	-8%
SHET	654	484	-170	-26%
SPT	580	396	-185	-32%
Total	**1,941**	**1,531**	**-410**	**-21%**

Table 17: BSC modelled costs (£m, 2023/24 prices)

TO	**RIIO-ET3 submitted**	**DD modelled**	**Difference**	**Difference**
	£m	£m	£m	%
NGET	576	516	-60	-10%
SHET	810	490	-321	-40%
SPT	385	236	-149	-39%
Total	**1,772**	**1,242**	**-530**	**-30%**

ETQ57. What are your views on the proposed blended approach to CAI? Do you agree with the weights applied?

ETQ58. Do you agree with the CAI UIOLI allowance to support TOs growth ahead of CP2030? What are your views on the scope and chosen level of CAI UIOLI funding?

ETQ59. Do you agree with our proposal to remove the opex escalator for RIIO-ET3?

ETQ60. Do you agree with our approach to BSC? How do you think this could be improved?

ETQ61. Do you agree with our proposal to introduce a BSC Re-opener? What are your views on the proposed design? What alternatives to a BSC Re-opener do you see as viable?

ETQ62. Do you agree with our approach to MEAV? What do you think we could do to improve its robustness?

ETQ63. Do you agree with our approach to operational training? What else should be considered within this approach?

ETQ64. Do you agree with our approach on insurance? What methodological improvements can we make?

ETQ65. Do you agree with our approach to pension scheme admin and PPF levy? What else should be considered within this approach?

Other costs

Background

5.153 Other costs consist of physical security and cyber security. Physical security costs can be defined as costs associated with responding to government mandated security changes, for new sites and to replace IT and Technical assets during the price control.[87] This does not include any 'BAU' physical resilience costs, which are categorised under non-load related capex. Cyber security is discussed in Chapter 12 of the Overview Document.

5.154 At RIIO-ET2, the cost assessment approach for physical security was the same as for non-load related capex, except that the needs case for new sites was approved by government. RIIO-ET2 cyber security costs were separately assessed.

5.155 In our SSMD, we signalled our intention to retain the RIIO-ET2 approach for physical security. Where costs were certain, we considered that ex ante allowances would be appropriate in line with our overall approach to cost assessment.

5.156 In RIIO-ET2, allowances for other costs amounted to £0.3bn, ie 3% of total baseline allowances. All TOs are forecasting an underspend relative to their baseline allowances set for the RIIO-ET2 period for Other costs, ranging from 13% to 90%. The main driver of the large underspend for SPT is associated with activity under enhanced environmental requirements and net zero biodiversity.[88]

5.157 For RIIO-ET3, TOs submitted a baseline allowance request of £722m, a 109% increase on their RIIO-ET2 allowances. The main driver of this is an increase in cyber resilience costs, as well as SHET's submission of costs to protect from escalations in the contracting stage.

Consultation position and rationale

Summary of consultation position

Physical Security: High level quantitative assessment for total Physical Security Capex and Physical Security Opex costs using the lower of RIIO-ET2 and RIIO-ET3 unit costs,

[87] The process to making changes to government policy or the Critical National Infrastructure (CNI) list was previously known as the Physical Security Upgrade Programme (PSUP).
[88] RIIO-2 Electricity Transmission: Annual Report 2023 to 2024 https://www.ofgem.gov.uk/publications/riio-2-electricity-transmission-annual-report-2023-2024

combined with engineering qualitative assessment. Modelled baseline allowances subject to the Physical Security PCD. Introduction of a resilience re-opener for any new sites responding to government mandated security changes during RIIO-ET3.

Cyber Security: See Chapter 12 of the Overview document.

Rationale

5.158 We have undertaken a high-level quantitative assessment for physical security, combined with engineering qualitative assessment. Unlike at RIIO-ET2, no new sites were submitted in baseline. Should government approve the needs case for any during RIIO-ET3, these will be subject to the Resilience Re-opener, described in Chapter 5 of the Overview Document.

5.159 For all Physical Security asset categories other than New Sites (IT Asset Refresh, Technical Asset Refresh and Owned Sites), comprehensive volumes were submitted in the BPDTs. We therefore considered it appropriate to use these volumes and undertake a quantitative assessment taking the lower of RIIO-ET2 and RIIO-ET3 unit costs for consistency with our approach for some NOCs cost categories, where we carried out a similar quantitative assessment. Generally, RIIO-ET2 unit costs are reflective of RIIO-ET3 unit costs for total Physical Security Capex and total Physical Security Opex. We therefore considered it appropriate to carry out the assessment at this level of aggregation rather than for each asset type, where unit costs are more variable.[89] Ex ante allowances for Physical Security Capex and Physical Security Opex will be subject to the Physical Security PCD.[90] Our modelled costs for Physical Security are set out in the company annexes.

5.160 SHET submitted costs in this area to protect from cost escalations in the contracting stage. We consider that RIIO-ET3 sufficiently accounts for uncertainties, as described in Chapter 4 of this document, including future cost escalations. Moreover, we did not consider the justification of the materiality of these costs to be sufficiently robust. Therefore, we have not allowed these costs.

ETQ66.	Do you agree with our assessment approach for Physical Security? If not, how should we assess these costs?

[89] Asset types within the IT Asset Refresh and Technical Asset Refresh categories for Physical Security Capex, and Owned and Shared Sites for Physical Security Opex.
[90] Chapter 5 of the Overview Document

ET Engineering Assessment Overview

Our Assessment

Overview

5.161 As part of the engineering review of the business plans, we have assessed each of the EJPs provided by the TOs. Our approach to the assessment of EJPs is explained in Chapter 8 of the Overview Document. We note that in the ET sector, due to the different types of EJP used we do not refer to EJPs as our standard terminology, instead we refer to Ofgem Scheme References (OSRs) which makes the integration of our engineering assessment into the cost assessment process more transparent. This means that our assessment is on a per OSR basis as opposed to per EJP basis.[91]

5.162 In the company annexes, we have included a table of all the submissions that we deemed partially justified or unjustified, with brief supporting commentary against each. We have not commented further on submissions we consider to be fully justified in terms of need, solution options and scope.

5.163 For load investments, the majority of needs cases are considered Justified. Many CP2030 projects and associated enabling projects are included within in-period UMs, meaning our assessment of Optioneering and Scope Confidence generally does not impact baseline funding requests. Consequently, any proposed reductions in allowances are typically based on the NLRE submissions.

5.164 We summarise the outcome of our assessment in the company annexes. To provide some context to these summaries, we have set out some themes emerging from our assessment below, including descriptions of some challenges and opportunities the ET sector is facing.

Finding the balance between Non-Load Related Expenditure (NLRE) and Load Related Expenditure (LRE)

5.165 The scale of LRE required will, by default, pick up many underlying asset health issues as assets are replaced and/or upgraded. Such issues will need to be addressed either directly through LRE projects, or through NRLE in baseline or UMs.

Our analysis and outcomes on NLRE and LRE investment interaction

5.166 While TOs are delivering critical LRE investments to accommodate new connections and reinforce their networks, the existing network must continue to operate reliably throughout this transitional period and beyond. This drives two

[91] Individual EJPs may have multiple OSRs and so where we do reference an EJP it is to minimise the administration on listing all applicable OSRs.

key considerations: the need for Strategic Investment during NLRE work and the need to maintain the health of the existing network. These elements are not mutually exclusive, and opportunities to address both can be pursued in parallel. To support this, we created a Strategic Investment Categorisation in the EJP Guidance to minimise limitations or regrets for TOs when considering NLRE investments that can have broader strategic benefits.

Retaining Optionality

5.167 ET assets generally have operational lifespans of 40 years, and often more. This means that assets constructed in RIIO-ET3 will likely experience significant changes in their surroundings and usage throughout their lifespan. In previous price controls we have seen sub-optimal designs that could have put future consumer value at risk.

5.168 We tried to avoid this in RIIO-ET2 settlement and related re-opener design. The restricted optionality includes concerns about constructing unextendible substations, using low-rated equipment in asset replacement and the extensive use of GIS. We consider that in some cases in RIIO-ET2, future optionality has not been sufficiently designed into these solutions.

5.169 In many areas of the UK, we are gradually exhausting the additional optionality constructed between the 1960s and 1980s. As such, we are keen to ensure TOs build future optionality in their designs, where it is economic and efficient to do so.

5.170 To reinforce this, we anticipate providing re-opener guidance to the TOs that reflects Engineering Transmission Design Principles (ETDP) project led by NESO. We will investigate the creation of regulatory mechanisms to ensure the benefits of a fast-track assessment process are realised when these principles are followed, with more in-depth evidence required to justify deviations from these principles.

5.171 This will provide a time-based incentive for TOs, significantly reducing the time taken to approve project funding by working to a standard design for substations (of various sizes) or low risk route interventions.

Outcome of our assessment

5.172 We have summarised our findings for the ET sector into four themes. Further detail on each TO's submission is provided in the company annexes.

Data Provision

5.173 All TOs have complied with the IDP guidance in an acceptable manner. In particular we note significant improvement in NGET's submission compared to

its RIIO-ET2 proposals, which has substantially reduced the requirements for SQs.

5.174 Of the three TOs, we find SHET's data provision for Portfolio assets to be the most limited with regards to quantity. SPT and NGET's data provision has been in line with expectations. We welcomed the detail in NGET's submission, including additional supporting data above our original request.

Non-Load Related Expenditure (NLRE)

5.175 Over the course of RIIO-ET1 and RIIO-ET2, we observed two different approaches to NLRE investments. We consider SPT and SHET have historically taken a site-based approach in which entire sites are addressed when the majority of assets are approaching end of life or where demonstrably economic and efficient to intervene in a grouped basis. This intervention strategy has meant that for RIIO-ET3, a targeted approach to NLRE is being pursued with, generally, the same level or decreasing need for investment in NLRE.

5.176 Our RIIO-ET3 assessment includes significant analysis of NLRE proposals. We have considered both the assets proposed for intervention and those that are not. This comprehensive review has been useful in assessing the licensee investment plans. It provides additional context to our assessment, helping us determine whether the selected interventions effectively address core risks.

5.177 NGET historically has taken a different, targeted approach. However, it now appears to be converging with the historical SHET and SPT approach of whole site replacements being considered in the optioneering. NGET's approach for RIIO-ET3 has been transparent, but we still lack clarity around NGET's previous investment strategies. This has made our review challenging, as we are unclear on potential double funding of investments. Moreover, given the change in approach, we are concerned about NGET's ability to deliver the increased volumes as proposed in its baseline ask or through re-openers due to the significant increase in work.

5.178 One area of focus for our assessment of NGET's submission was the relationship between asset condition data and the economic case for intervention on the asset. For example, funding was requested to replace assets that appeared to have a relatively good asset health score, without clear justification as to why such replacement was needed. These were deemed to be unjustified, pending further clarifications from NGET.

Load Related Expenditure (LRE)

5.179 Generally, we found the majority of LRE needs cases were justified. Where we have a clear link to CSNP we have classified these as justified. This reflects the need to build a network suitable to deliver the connection and reinforcement works required to facilitate CP2030 targets and beyond.

5.180 SPT and SHET provided a number of EJPs in the initial submission and SHET supplemented it with CP2030 related EJPs. However, the vast majority of EJPs were for needs case only and so have limited contribution to baseline funding. SPT's EJPs were generally clear and well supported with evidence. SHET's EJPs while clear, provided marginally less detail, however demonstrated clear thinking over multiple price controls and a staged approach which appears reasonable.

5.181 NGET submitted EJPs for LRE ex ante funding. NGET's EJPs were slightly less clear in terms of need, blurring the NLRE and LRE investment cases, with the NLRE element likely to be more critical in our view than the LRE. Where these EJPs were designed for re-openers, this caused concern regarding NGET's strategic approach to both NLRE and LRE. We had expected NGET to utilise more baseline funding for projects that, in our view, are clearly driven by asset replacement needs, as opposed to re-openers.

Use of Gas Insulated Switchgear (GIS)

5.182 Over the course of RIIO-ET1 and RIIO-ET2, we have observed an increasing use of GIS switchgear in new projects. TOs often refer to consenting or project cost justifications for the use of GIS over Air Insulated Switchgear (AIS).

5.183 We consider that GIS, where clearly articulated and evidenced, can be well justified. There are circumstances where GIS is the most economic and efficient option. We also recognise that in RIIO-ET2 all TOs have committed to SF6 free GIS equipment, and the steps taken to prevent SF6 leakage. However, present variants of this switchgear mainly use F-Gas[92] based insultation and interruption gases. Given our net zero obligations we have a requirement to reduce the total amount of F-Gases used. Furthermore, where they are used, we expect TOs to have a clear path to an economic removal in the future.

5.184 In our view, AIS appears to have a greater long-term potential for continued use as the equipment is more modular in comparison to GIS. This enables future

[92] F-Gases are Fluorinated gases which have a green house warming effect if emitted to atmosphere.

extensions and F-Gas technology replacements to potentially be undertaken at lower whole life costs. We consider that AIS will be more resilient to potential future legislative changes to reduce or ban the use of F-Gases and will allow assets to operate for a longer life span.

5.185 In addition, as far as we are aware, the manufacture of Type Tested GIS SF6 free switchgear at 275kV and above is limited at present to two suppliers. We note that once GIS is procured there is a tendency towards Original Equipment Manufacturer (OEM) 'tie-in'. This tie-in reduces future competition should work be needed such as extension, asset replacement or refurbishment as the TO is tied to one OEM. Conversely, we recognise that GIS equipment generally requires fewer interventions than AIS equivalents.

5.186 For future re-openers and submissions, we require TOs to put in appropriate levels of optioneering and justification to their designs considering pros and cons for all solutions on a whole life basis.

Questions and Consultation Response

5.187 We welcome TO and stakeholder feedback on the outcomes of our assessment. We particularly welcome evidence by TOs that could further inform our assessment ahead of FDs.

ETQ67.	Do you have any views on our engineering assessment of the thematic issues we have identified?
ETQ68.	Do you agree with our approach to maintaining future optionality through ensuring licensees use extendible designs?
ETQ69.	Do you agree with our drive to reduce the use of F-Gases as far as possible and do you agree with our intent to fast track selected AIS solutions to minimise the use of F-Gases now and in the future?

Totex Incentive Mechanism (TIM)

Purpose: To ensure that TOs and consumers appropriately share the risk of overspending and share any cost efficiencies that can be achieved.

Benefits: Provides TOs with an incentive to keep costs as low as possible, without being unreasonably exposed to potential cost overruns.

Background

5.188 Cost sharing mechanisms in infrastructure contracting and price controls for regulated monopolies are commonplace. These are used to ensure that the parties (in this case consumers and the TOs) both benefit from in-period efficiencies, ie share any underspend against allowances, and also share the risk of any overspending. In our RIIO price controls this mechanism is referred to as the Totex Incentive Mechanism (TIM).

5.189 We have typically used the TIM primarily to drive cost efficiency and thus lower consumer bills – based on an assumption that the majority of costs are within a network company's control and that at time of setting allowances there was reasonable confidence that these were reflective of the efficient cost of carrying out activities. A secondary focus has also existed on managing a fair apportionment of risk between network companies and consumers, where costs are harder to control or forecast with high degrees of confidence. The RIIO-ET2 TIM rates were: 33% for NGET, 36% for SHET and 49% for SPT. These were mechanistically set based on the confidence that we had in TO costs when setting RIIO-ET2.

5.190 In our SSMD we set out that for RIIO-ET3 "we expect to adopt a qualitative and quantitative assessment of relevant factors, rather than mechanically derive the TIM" and "we advise companies that using a sharing factor in the range of 20-50% is plausible."

5.191 In their business plans, TOs set out that the following two factors should result in a lower TIM in RIIO-ET3, so as to avoid exposing TOs and their investors to unacceptable levels of risk:

- their investment pipeline is significantly larger than it has ever been, which means that theoretical financial exposure under the TIM would increase significantly; and
- the majority of that increased expenditure will be on large capital projects which can come with a significant risk of cost overruns due to factors in the wider economy, supply chain constraints or planning delays.

5.192 Reflecting this, each TO set out different proposals in relation to the TIM:

- NGET proposed that we should retain a relatively strong TIM within the range set out at SSMD, so long as this didn't apply above/below 5% of over/under-spend on specific high-value major projects, as is the case under ASTI.
- SHET proposed a flat 10% TIM across the whole price control.
- SPT proposed a 'stepped TIM', which would start at 25% between +5% and -5% over/under-spend, drop to at 15% between 5% and 10% over/under-spend, and drop again to 0% after 10% over/under-spend.

Consultation position and rationale

Summary of consultation position

ODI type: Financial - penalty and reward.

Measurement: Over or under-spend against all totex on an annual basis (including where totex is adjusted during the price control period).

Incentive value: Differing sharing factors depending on over/spend-spend, as follows:

Band 1: 25% sharing up to 5% of over/under-spend

Band 2: 5% sharing at 5%-15% over/under-spend

Band 3: No sharing (ie cost pass-through) beyond 15% over/under-spend

Applied to: All TOs.

How should the TIM be used in RIIO-ET3?

5.193 We agree with the principle that the factors set out at paragraph 5.191 may increase the level of risk faced by TO investors if our price control regime, including the TIM, doesn't adapt. Forcing the TOs to be exposed to this risk within the price control (ie through the TIM) may create consumer detriment if it resulted a higher cost of capital or TOs investing in projects more conservatively and delaying delivery. In addition, we also consider that the risk that consumers are taking in funding these increased allowances should be significantly compensated if cost efficiencies can be achieved.

5.194 As such we propose that in RIIO-ET3 the TIM should primarily focus on managing the risk of cost forecasting inaccuracy and/or over-spends, with a secondary but still critical focus on driving TO behaviours to achieve cost efficiency. Given the increased risk and quantum of over-spends in RIIO-ET3, this approach would result in a lower TIM, which reduces TO exposure to over-spends.

Options considered

5.195 Given the above we don't propose to maintain the RIIO-ET2 TIMs (ie 33%-49%). Whilst this would keep a strong incentive on TOs with regards to cost efficiency, we consider that with the volumes of RIIO-ET3 capex expected, these would place too much risk on TOs (and consumers if we set costs too high, as TOs would keep a larger portion of costs that were set erroneously high).

5.196 NGET's proposal achieves the balance that we are desiring between managing risk exposure and retaining cost efficiency. However, differing TIM treatments in different parts of price control would create a significant gaming risk that would be difficult for us to manage, ie TOs may artificially move costs to an area where they are less exposed to overspends, in order to profit on the area where they receive most from underspends. We have ruled this option out for that reason.

5.197 SHET's proposed flat 10% across the price control addresses our cost uncertainty exposure concerns, although exposure would be uncapped (up to the Return Adjustment Mechanism (RAM) threshold). However, it significantly diminishes incentive properties around cost efficiency. As it doesn't fully achieve either of our desired outcomes, we don't intend to implement this option.

5.198 The principal of SPT's stepped TIM proposal appears to achieve a good balance of the outcomes we want to achieve, described at paragraph 5.194. Where costs are close to target there is a strong incentive to keep costs efficient. This incentive doesn't totally disappear when costs increase initially, but when costs are far from the target, indicating that something significant and unexpected may have occurred, TOs (if overspending) don't fully bear that cost. Similarly, if the target cost was set far too high, consumers would see a large portion of those costs returned in full. We have developed this option further for our Draft Determinations in the sub-section below.

Stepped TIM proposal

5.199 We propose to introduce a stepped TIM into RIIO-ET3 which works as follows, with worked examples set out in Table 18:

- Band 1: On the first 5% of any overspend or underspend TOs would pay 25% of any overspend on that first 5% and similarly receive 25% of any underspend on that first 5%.
- Band 2: In addition to Band 1 which will continue to apply for the first 5% of spend variance, under Band 2 when totex spending falls between 5% and 15% (up or down) of agreed price control allowances TOs would pay 5% of any overspend and receive 5% of any underspend.

- Band 3: There would be no sharing factor applied on any TO underspending or overspending beyond 15% of agreed totex allowances, ie consumers would pay all additional overspend beyond 15% (with the arrangements set out in Bands 1 and 2 applying to the first 15%) and receive all additional underspend under 15% (with the arrangements set out in Bands 1 and 2 applying to the first 15%).

Table 18: Worked examples of a stepped TIM in overspend scenarios

Totex	**Overspend %**	**Overspend (£m)**	**TO cost (£m)**	**Consumer cost (£m)**
£10bn	2.5%	£250	£63	£188
£10bn	5.0%	£500	£125	£375
£10bn	10.0%	£1,000	£150	£850
£10bn	15.0%	£1,500	£175	£1,325
£10bn	20.0%	£2,000	£175	£1,825

5.200 We consider that this stepped approach will ensure that TOs have an exposure to cost overruns that is commensurate with the risks that they are able to manage, whilst retaining a strong incentive to keep costs efficient when they are in control of those costs. It also provides for a capped and transparent level of exposure to cost overspends, providing investors with certainty of a worst-case scenario.

5.201 The values described in paragraph 5.199 that we are proposing for the stepped TIM have been derived using SPT's proposal as a starting point, against which we then modelled different potential approaches. We consider that the values set out achieve a fair balance between the objectives that we are seeking to achieve, described at paragraph 5.194. However, we welcome views on this proposed approach, particularly around whether we have struck an appropriate balance in the consumer interest between incentivising timely delivery and robust cost control.

5.202 One option that we have considered to further drive cost efficiency is setting an asymmetric stepped TIM where TOs keep a larger share of underspends than currently proposed. This would be with the intention of continuing to apply strong incentives on TOs to seek out cost efficiencies without increasing their risk exposure. We have not proposed to take this forward because we consider that the risk that consumers face on overspends should be compensated with identical rewards in underspends and that 25% should still be enough to drive TOs to secure savings. However, we welcome views from stakeholders on this.

Application of Stepped TIM to ASTI

5.203 Our decision on the ASTI licence conditions[93] set out an intention to apply the TIM to overspends/underspends within +/-5% of project allowances for ASTI projects. Any spend in excess of this amount would be either returned to consumers in full (for underspends in excess of 5%), or passed-through to TOs in full (for overspends in excess of 5%). Our assumption when taking that decision was that the TIM in RIIO-ET3 would be similar to the TIM at RIIO-ET2, ie 33%-49%, but for the reasons set out at Paragraph 5.194, this is no longer the case.

5.204 As such, we propose that ASTI projects should be included within the Stepped TIM for RIIO-ET3, and that no other cost sharing arrangements should apply to ASTI projects unless agreed on a project-by-project basis. Our rationale is that:

- our proposed Stepped TIM is substantially lower than the RIIO-ET2 TIM that applied when taking our ASTI decisions; and
- differing TIM treatments in different parts of the price control, unless carefully separated out, would allow TOs to artificially move costs to an area where they are less exposed to overspends, in order to profit on the area where they receive most from underspends.

5.205 We would not alter the definition and thresholds for COAE used under ASTI.

Questions

ETQ70.	Do you agree that the TIM in RIIO-ET3 should have a primary focus on risk management and a secondary focus on cost efficiency, and that doing so would be in the interests of consumers?
ETQ71.	Do you agree with our proposed 'stepped' design of the RIIO-ET3 TIM, including the values that we have used to set each 'step'?
ETQ72.	Do you agree with our proposal to include ASTI within this TIM approach?

Business Plan Incentive (BPI) - Stage B

5.206 This section sets out the results and detail on how the companies were assessed for the electricity transmission sector for Stage B of the BPI. Further details on the TOs' performance against Stage B of the BPI are set out in the company annexes. For information on what the BPI is and how it is assessed, see the Overview Document.

[93] https://www.ofgem.gov.uk/decision/decision-modify-special-licence-conditions-electricity-transmission-licences-accelerated-strategic-transmission-investment, paragraph 3.43.

Stage B assessment results

Table 19: Results for the electricity transmission sector for Stage B of the BPI

Network	Stage B – Comparative	Stage B – Bespoke	Total (bps of RoRE)
NGET	7.14	-1.41	5.73
SHET	-1.71	-0.93	-2.64
SPT	-3.16	3.80	0.64

Assessment methodology

5.207 The overall result for Stage B corresponds to the weighted average of the outcomes from the comparative and bespoke assessment methodologies, as we set out in our SSMD.[94]

5.208 In ET, we have carried out a comparative cost assessment for three cost categories; CAI, BSC and Insurance. The CAI cost assessment applies a blended benchmarking approach equally weighting a POLS multivariate regression across the ET sector and a TO-specific ratio analysis. The BSC assessment applies a POLS regression across transmission sectors (GT and ET) and is supplemented with a TO-specific trend analysis. Insurance cost efficiency was assessed using ratio benchmarking on network length, with the RIIO-ET3 median cost chosen as the benchmark. For further information on the assessment approach and our rationale, see Chapter 5.

5.209 The comparative assessment scores for CAI and BSC both combine regressions with non-comparative analysis which was used to capture forecast cost drivers within baseline allowances. We consider the inclusion of the non-comparative elements within the comparative scoring helps to provide a more balanced view of relative cost efficiency and is a reflection of forecast costs for RIIO-ET3.

5.210 Remaining cost categories were assessed on their own merit within the bespoke assessment where a like-for-like comparison between companies was not possible. This assessment used three criteria: quality of cost evidence, justification of unit cost efficiency and justification of volume efficiency. The scores for each criterion were equally weighted except for cases where unit costs or volumes were not applicable. The comparative and bespoke scoring for each TO is set out at a cost category level within the company annexes.

[94] RIIO-3 Sector Specific Methodology Decision - Overview Document https://www.ofgem.gov.uk/sites/default/files/2024-07/RIIO_3_SSMD_Overview.pdf

6. Your response, data and confidentiality

6.1 All proposals published as part of these documents are draft proposals, subject to consultation. We will publish our decisions on the RIIO-3 price controls in our Final Determinations later this year. We will implement our Final Determinations by modifications to the companies' licence conditions, after further consultation on licence drafting.

Consultation stages

6.2 Table 20 below sets out the key stages for this consultation and how we will progress from Draft Determinations to Final Determinations

Table 20: Consultation Stages

Stage	**Date**
Consultation Open	01/07/2025
Consultation closes (awaiting decision). Deadline for responses	26/08/2025
Final Determinations (including publication of consultation responses)	Winter 2025

How to respond

6.3 We want to hear from anyone interested in this consultation. Please send your response to RIIO3@ofgem.gov.uk.

6.4 We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

6.5 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, your data and confidentiality

6.6 You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

6.7 If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not* wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with

you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

6.8 If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ('UK GDPR'), the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 3.

6.9 If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

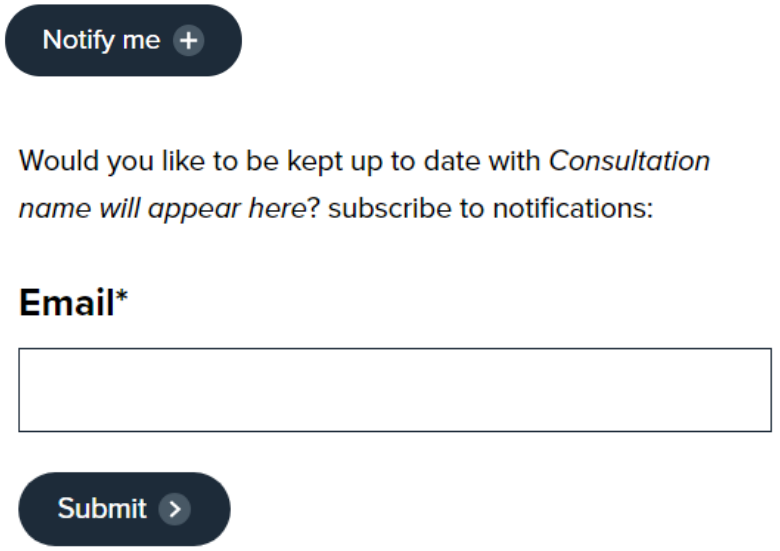
6.10 We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Choose the notify me button and enter your email address into the pop-up window and submit. ofgem.gov.uk/consultations



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

Upcoming > **Open** > **Closed** (awaiting decision) > **Closed** (with decision)

Appendix 1 – NISES Survey

Question 1: What type of stakeholder of new transmission infrastructure best describes you?

- Local resident
- Local business owner
- Landowner
- Local authority
- Community groups
- Environmental NGO
- Academic interest
- Connections customer
- Other (please specify)

Question 2: Thinking about how proactive and prompt NGET/SHET/SPT is with their engagement…

a) On a scale of 1-10, where 1 is extremely dissatisfied, and 10 is extremely satisfied, how would you rate your satisfaction with the promptness of engagement from NGET/SHET/SPT?

b) Which statement below would you mostly agree with about NGET/SHET/SPT promptness of engagement?

- TO engagement is too early.
- TO engagement is early.
- TO engagement is right on time.
- TO engagement is late.
- TO engagement is far too late.

Question 3: Thinking about how regular and often NGET/SHET/SPT engages with you…

a) On a scale of 1-10, where 1 is extremely dissatisfied, and 10 is extremely satisfied, how would you rate your satisfaction with how often NGET/SHET/SPT engages with you?

b) Which statement below do you mostly agree with about NGET/SHET/SPT frequency of engagement?

- Engagement could be a lot less often.
- Engagement could be less often.

- The frequency of engagement is just right.
- Engagement could be more often.
- Engagement could be a lot more often.

Question 4: Thinking about the methods in which NGET/SHET/SPT engages with you…

a) On a scale of 1-10, where 1 is extremely dissatisfied, and 10 is extremely satisfied, how would you rate your satisfaction with the methods of engagement provided by NGET/SHET/SPT?

b) What are your preferred methods of engagement from NGET/SHET/SPT? Please select all that apply.

- In person consultation
- Virtual consultation
- Individual meetings
- Surveys
- Letters
- Newsletters
- Phone calls
- Social media
- Local press
- NGET/SHET/SPT website
- Other (please specify)

Question 5: Thinking about the quality of information provided by NGET/SHET/SPT…

a) On a scale of 1-10, where 1 is extremely dissatisfied, and 10 is extremely satisfied, how would you rate your satisfaction with the quality of information about current and upcoming projects provided by NGET/SHET/SPT?

b) How could NGET/SHET/SPT improve the quality of information about current and upcoming new transmission infrastructure project? Please select all that apply.

- The information provided could be more detailed.
- The information provided could be clearer.
- The information provided could be more relevant to me.
- The information provided could be easier to find.
- The information provided could be in a more accessible format.
- Other (please specify).

Question 6: Thinking about how NGET/SHET/SPT responds to stakeholder feedback…

a) On a scale of 1-10, where 1 is extremely dissatisfied, and 10 is extremely satisfied, how would you rate your satisfaction with the responsiveness of stakeholder feedback by NGET/SHET/SPT?

b) How could NGET/SHET/SPT improve their responsiveness to feedback?

Question 7: Could you explain the highest score you have given?

Question 8: Could you explain the lowest score you have given?

Appendix 2 - Econometric benchmarking of Indirects

A2.1 This appendix describes our methodological choices for the econometric benchmarking analysis for BSC and CAI. Specifically, we discuss the selection of the time period for the analysis and cost drivers included in the models. We then describe the principles we followed for model selection and the post-estimation tests we performed.

Time period

A2.2 For both BSC and CAI, we considered alternative time periods for estimating the parameters in the regression models. This included running regressions for the historical years of RIIO-ET1 and RIIO-ET2 (2014-2024), forecast data only (2025-2031) and for the full period from RIIO-ET1 to RIIO-ET3 (2014-2031).

A2.3 Each of these options presents advantages and disadvantages. Using historical data has the benefit that it captures the historically observed relationship between costs and cost drivers. A model based on historical data, however, might not adequately estimate the step increase in costs TOs could face due to CP2030. A model based on forecast, on the other hand, is better placed to reflect these changes, since it relies on assumptions made by the TOs in their business plans. However, including forecast data in a model creates the risk of 'reverse causation' (that is when cost affects cost drivers), which might weaken model results. The inclusion of forecast data in our cost models is therefore a balancing act which requires weighting advantages and disadvantages.

A2.4 While we do recognise that CP2030 could have a significant impact on TOs' expenditure in RIIO-ET3, our choice of time period has been constrained by the quality of the underlying data submitted by TOs. As mentioned in paragraph 5.96, TOs did not follow a uniform approach to reporting their forecast expenditure for CAI and BSC for the RIIO-ET3 period. Specifically, the Scottish TOs have scaled their forecast to include indirects related to schemes subject to UMs and in the delivery pipeline to a various degree, while NGET has taken a different approach. This inconsistency would undermine the integrity of the benchmarking exercise and bias the results. Therefore, for the purpose of our econometric analysis, we consider it is more appropriate to rely on historical data.

Cost drivers

A2.5 In the selection of cost drivers, we have been guided by economic and engineering rationale, statistical robustness, and relevance to the activities

being assessed. Similar to in RIIO-ET2, we have considered scale and workload variables (such as FTEs, MEAV and capex) and other variables to control for factors such as sector differences or time effects.

A2.6 In general, the cost drivers included in our cost models, and the way we have chosen them, reflect the methodology used in RIIO-ET2, except for the MEAV. For RIIO-ET3, we have refined our approach to calculating MEAV in response to concerns that were raised by TOs. A detailed discussion is included below.

Modern Equivalent Asset Value (MEAV)

A2.7 MEAV is a proxy for the cost of replacing every operational asset that is currently on a TO's asset register. It is used to represent the size and complexity of a TO's network and can be a useful variable to predict the indirect costs of the network. During RIIO-ET2, MEAV was the main variable used in the composite scale variable (CSV) for BSC and was also used in the CAI regression.

A2.8 Throughout CAWGs and further engagement with the TOs, it emerged that an improvement to MEAV would be to calculate a standardised unit cost for each asset included in MEAV.

A2.9 Using data from the BPDTs did not produce meaningful results, therefore we propose to implement one TO's suggestion and calculate unit costs based on engineering costs submitted by TOs.

A2.10 Moreover, we have worked with TOs to compile a consistent asset list to improve the robustness of MEAV as a driver, ensuring a scale driver that supports a robust and fair cost assessment framework between TOs.

A2.11 In contrast with RIIO-ET2, our current approach to calculate MEAV leaves out a number of assets. We will continue the engagement with stakeholders to consider whether the incorporation of further assets to the list would be appropriate to refine MEAV as a scale driver.

A2.12 TOs suggested that a scale driver has a lagging characteristic, and that it should be offset for better model fit. We acknowledge that the principle has validity; the scale driver would only increase after energisation of an asset, and that this does not align with certain indirect expenditures, which occur before asset energisation. Our testing on MEAV as a lagging measure, however, has only had marginal impact on model fit.[95] Factors such as projects of different lengths, TO differences and non-load capex projects that can have indirect spend, but no

[95] Through engagement with the TOs, we had previously agreed to try offsetting the MEAV by 3 years: for example, the MEAV of 2020 would be moved forward to the year of 2017.

impact on the scale driver, could all be confounding our ability to lag the scale driver appropriately. We also expect that the same lag might not apply to a different project sample. We will continue to consider further evidence of this, including longer lags than previously tested. Our current position, however, is to not lag MEAV, unless we are able to overcome these pragmatic issues in a way that is corroborated by engineering rationale.

Model selection

A2.13 The model selection process has been structured in two main stages. The first stage focuses on evaluating the statistical and economic validity of each specification:

- Statistical and economic significance: coefficients are tested for statistical significance, with models containing statistically insignificant parameters typically excluded from further consideration. In addition, results are reviewed from an economic standpoint to ensure the relationships identified by the models are plausible.
- The selected models are then subject to further diagnostic, robustness and specification testing to assess their compliance with regression assumptions and sensitivity to different modelling choices.

A2.14 In our diagnostic tests, residuals are examined for randomness, homoskedasticity (constant variance), and normality. This included visual inspections such as residuals vs. fitted values plots, as well as formal statistical tests (eg, Breusch-Pagan for heteroskedasticity and Jarque-Bera for normality). These checks help confirm that the core assumptions underpinning Ordinary Least Squares (OLS) estimation are not violated in a way that would impact results.

A2.15 Robustness and specification tests include:

- Time period: to test whether the results are overly dependent on particular years, models are re-estimated on different time windows (eg including the RIIO-ET3 period). This help ensuring that conclusions are not impacted by time anomalies or structural breaks.
- Sensitivity tests are conducted to check whether any one company (eg a single TO or the gas transmission comparator) have a disproportionate influence on results. This includes estimating models with and without certain companies to test the stability of the key relationships.

- RESET test: Ramsey's Regression Equation Specification Error Test (RESET) is used to detect general misspecification, such as omitted variables or incorrect functional form.
- Other checks: to further test for potential model misspecification, additional variables are introduced into the model, including company-specific dummy variables and quadratic terms. This allows for testing whether the relationship between costs and cost drivers varies systematically across TOs. These additions serve as a robustness check to identify omitted variable bias or structural differences between companies.

A2.16 Table 21 summarises the estimation results for the selected CAI and BSC model specifications. Both models show statistically significant coefficients for the main drivers, a strong model fit and good performance for most post-estimation tests.

A2.17 To note, consistent with the approach at RIIO-ET2, we used these results to compute modelled costs, with the efficiency frontier set at the average.

Table 21: Summary of CAI and BSC regression results

	CAI	**BSC**
Constant	-5.69***	3.51***
CSV	-	0.84***
Capex	0.15*	-
MEAV	1.01***	-
Time trend	-0.04	-
GT dummy	-	-0.77***
RESET	0.491	0.056
Heteroskedasticity	0.421	0.01
Normality	0.532	0.102
Adjusted R squared	0.92	0.87

Appendix 3 – Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. **The identity of the controller and contact details of our Data Protection Officer**

The Gas and Electricity Markets Authority is the controller, (for ease of reference, 'Ofgem'). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. **Why we are collecting your personal data**

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. **Our legal basis for processing your personal data**

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest, ie a consultation.

4. **With whom we will be sharing your personal data**

We will not share your personal data with any other person or organisation.

5. **For how long we will keep your personal data, or criteria used to determine the retention period.**

Your personal data will be held for 12 months after the project is closed.

6. **Your rights**

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services

- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7**. Your personal data will not be sent overseas**

8. **Your personal data will not be used for any automated decision making.**

9. **Your personal data will be stored in a secure government IT system**.

10. For more information on how Ofgem processes your data, click on the link to our 'Ofgem privacy promise'.